
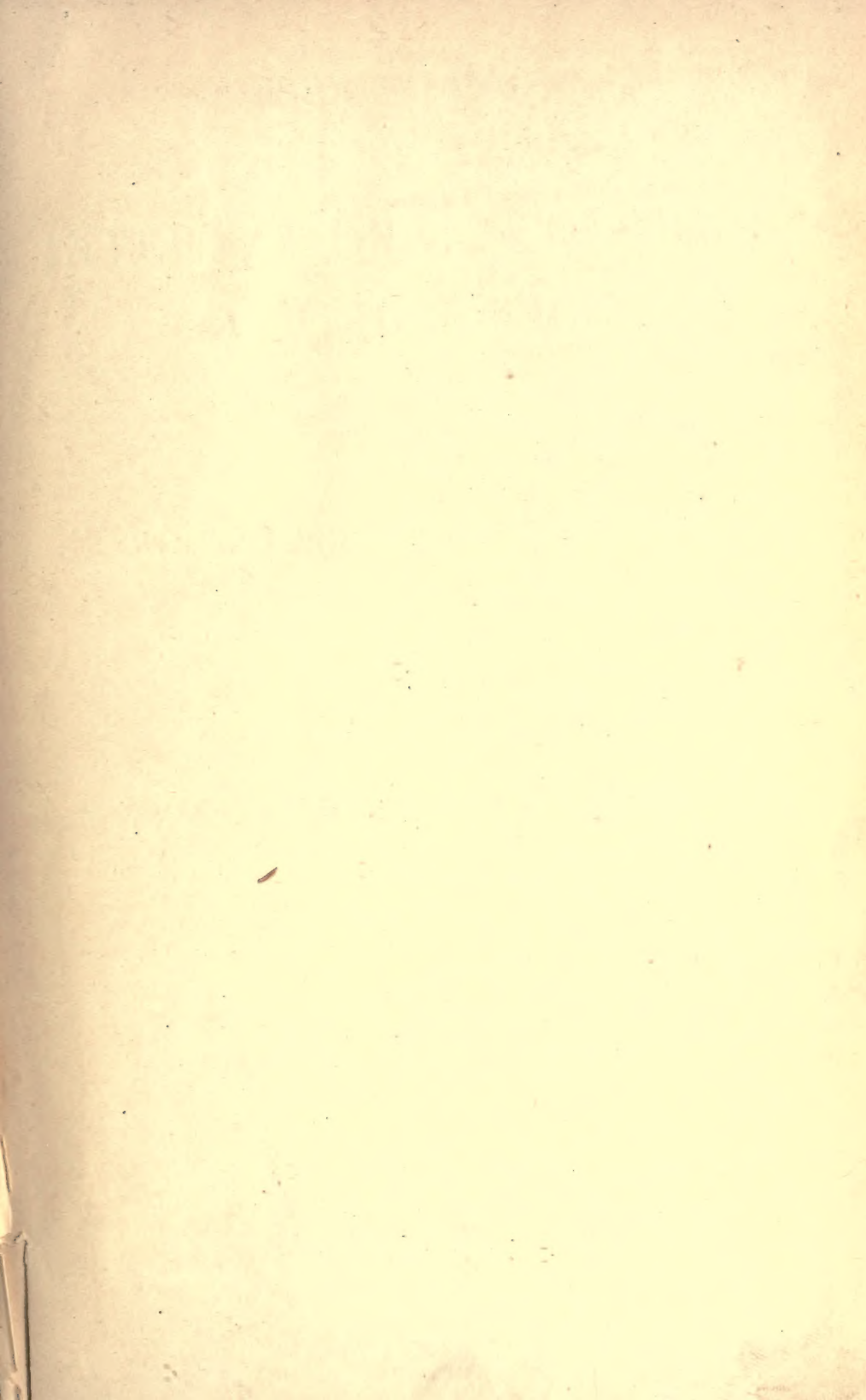


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The United States
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OF THE

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OF THE

WORLD'S COLUMBIAN EXPOSITION

CHICAGO, JULY 25-28, 1893

UNDER THE CHARGE OF THE

NATIONAL EDUCATIONAL ASSOCIATION

OF THE UNITED STATES

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JULY 25-28.

NOT THINGS, BUT MEN.

THE WORLD'S CONGRESS AUXILIARY
OF THE
WORLD'S COLUMBIAN EXPOSITION OF 1893.

NOT MATTER, BUT MIND.

PRESIDENT, CHARLES C. BONNEY.
VICE-PRESIDENT, THOMAS B. BRYAN.
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THE WOMAN'S BRANCH OF THE AUXILIARY,

PRESIDENT, MRS. POTTER PALMER.
VICE-PRESIDENT, MRS. CHAS. HENROTIN.

PREFACE.

IN connection with the World's Columbian Exposition, held at Chicago in the summer of 1893, to celebrate the four hundredth anniversary of the discovery of America, a series of World's Congresses was planned. In the words of the chairman of these congresses, the object was "to provide for the proper presentation of the intellectual and moral progress of the world by a series of international conferences of the leaders in all the chief departments of human achievements." The programme set apart appropriate sessions for each class of interests, the series commencing in May. Perhaps the most wonderful of all these congresses, in the magnitude of its undertaking and the readiness of response on the part of invited representatives from all parts of the world, was the Religious Congress, or the "Parliament of Religions," held early in September. It can safely be claimed that the Educational Congresses of the latter part of July held the next place in interest, and in numbers and character of representation.

In response to the request of Mr. Bonney, chairman of the World's Congress Auxiliary, the National Educational Association of the United States appointed a committee of arrangements to invite representative educators from the different parts of the United States and from foreign nations to participate in this, and to make up a programme for the occasion. In the various stages of progress the Committee of Arrangements had occasion to congratulate themselves on the readiness and courtesy with which distinguished educators, at home and abroad, lent their support to the movement. This will be seen both by the lists printed in this volume containing the names of those who accepted the title of honorary vice-president, and more especially by the names of those who were present and assisted in the discussions, or presented valued papers.

The Committee of Arrangements appreciated the importance of selecting questions of international interest for discussion, questions that affect the management of schools in all parts of the world.* The efforts of the committee in this regard were responded to in a hearty manner by the delegates who visited the Congress, and nearly all of the questions proposed were discussed with unusual thoroughness. As a result of these joint efforts, the committee is able to present more than one hundred and fifty well-prepared papers treating on all the many subjects that have exercised the minds of men in the higher schools or in the elementary schools of the civilized world.

*On pages 26 to 30 of this Report will be found a fuller statement of the views that guided the committee in the selection of topics for discussion.

It is believed by the Committee of Arrangements that the collection of papers herewith presented will be found to be noteworthy not only for the presence of those of high merit, but for the conspicuous absence of that class of weak and pointless writings which so often fill the volumes of proceedings of teachers' associations. Many of the papers here collected will be found to deserve a high place for their value as special treatises.

Dr. Calkins has explained in a prefatory note printed herewith that some condensation has been found necessary to reduce the size of the volume to the limits prescribed by the committee of the National Educational Association which he represents. I have asked him to print a statement in the table of contents opposite each item showing extent and character of the abridgment, and I hope that it will be found that nothing has been omitted which affects the value of any one of the several contributions.

There were fifteen department congresses. Of these departments, those for Higher Education, Secondary, Elementary, School Supervision, Professional Training of Teachers, Rational Psychology, Educational Publications, and Business Education represented what has long been established, and their discussions went largely to explaining and justifying work that is in process of accomplishment. On the other hand, the departments of Kindergarten Education, Instruction in Art, Vocal Music, Technological Instruction, Industrial and Manual Instruction, Physical Education, Experimental Psychology in Education, were devoted more especially to setting forth what is new and desirable in education, and urging its adoption into the school system. As a result, the educational problems have all been discussed in the light of these two tendencies.

It is well understood that each nation has a trend of its own somewhat different from those of its neighbors. In consequence of this it assigns to its school system the accomplishment of a peculiar problem, different in some respects from the problems assigned to the school systems of other nations. To forget this fact in making out the programme is to neglect the interest of the foreign delegates present. It is a matter of congratulation to the committee that the discussions herewith presented offer proof that the questions proposed were in no case mere local ones.

The value of this volume is enhanced by an alphabetical index,* giving names, places, institutions, and themes discussed, and in the case of the proceedings of certain departments, an analysis of topics treated.

So far as known, this is the largest international educational congress that has yet been held. The civilized countries of the world were more generally and fully represented, and the total of attendance was larger than at previous congresses.

It is hoped that this volume may find its way into all libraries at home and abroad; and it is recommended to special students of education

* Prepared by Dr. L. R. Klemm, of the Bureau of Education.

everywhere as a useful collection of special treatises on the live questions in education at this time.

In closing this prefatory note, the Committee of Arrangements desire to place on record their obligations to the President of the World's Congress Auxiliary, the Hon. C. C. Bonney, for his uniform courtesy and his generous and efficient coöperation.

W. T. HARRIS,
Chairman Committee of Arrangements.

NOTE BY THE EDITOR.

THE undersigned having been appointed by the Executive Committee of the National Educational Association to edit this volume, and instructed by said Committee that the Proceedings of the International Congress of Education must be limited to a single volume of a thousand pages when published, and its early publication having been prevented by conditions beyond control, deems it appropriate to make explanatory statements as to the chief hindrances to an earlier completion of the work, and also as to the nature of the abridgments necessary to bring the volume within the prescribed limits.

First.—About one-fourth of the papers presented before the congresses could not be obtained by the Secretary, for various reasons wholly beyond his control, during the time of the meetings. It was found difficult to secure them after the writers had returned to their homes. Several papers were sent directly to the Chairman of Arrangements, and the Secretary forwarded to him, about the 15th of September, all the papers, reports, and discussions that he had been able to collect.

Second.—The first package of these papers reached the editor on Christmas-eve; others arrived during January. Those of the department latest received were delivered to him April 10th. Several single papers were received still later. Beside, many papers of delegates from foreign countries had to be translated. The extended index could not be completed until all the papers were in type and pagged.

Third.—The very large number of papers submitted, with about four hundred pages of reported discussions, and the lengthiness of some papers, together with the limits of a single volume, rendered it necessary that portions of this material should be abridged, or valuable papers omitted entirely. These conditions made reading and discrimination indispensable. The material submitted has been diminished by excluding some papers sent to the editor which were neither read nor considered before the Congress; also by leaving out a few which did not seem necessary to the completeness of the volume.

Abridgments have been necessary where two or more papers were written upon the same subject; slight abridgments have been made in cases where matter incidentally related to the subject did not appear essential to the writer's treatment of it. This class includes a large majority of those slightly abridged. In all cases care has been taken to retain the exact language of the writers in the papers thus printed. In many instances the papers marked "abstract" in the volume were sent to the editor in the form used.

Where abridgments have been made in the papers published the extent and character of the abridgments are indicated within brackets in connection with the titles in the following table of contents.

Changes have been made in language in a few instances where the writers are not accustomed to speak or write English.

Re-writing was found indispensable in some of the reported discussions and in minutes of meetings. In these cases, where possible, the language of the writer or speaker has been retained.

It is hoped that an examination of this volume, in view of the facts above stated, may overbalance all disappointment from its late reception, and be accepted as a reasonable explanation of any omissions.

N. A. CALKINS.

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SUBJECTS PRESENTED IN THE PRELIMINARY PROGRAMME FOR DISCUSSION BY THE INTERNATIONAL CONGRESS OF EDUCATION.

HIGHER EDUCATION.

Thesis : Ought a distinction to be maintained between collegiate and university methods of instruction ? Discussion.

Thesis : Is it desirable that universities should be of one type ? Discussion.

Thesis : Should an antecedent liberal education be required of students in law, medicine, and theology ? Discussion.

Thesis : Is it desirable that professional schools should be closely connected with universities and colleges ? Discussion.

General subject : Colleges.

Thesis : Conditions of admission ? Discussion.

Thesis : Should Greek be required for the degree of B.A. ? Discussion.

Thesis : What signs of improvement in the undergraduate life of American students ? Considered under the topics of athletics, morals, student organizations, international courtesies, relations to instructors. Discussion.

Thesis : The degree of doctor of philosophy—on what conditions should it be given. Discussion.

Thesis : On the relations of colleges and universities to the progress of civilization. Discussion.

SECONDARY EDUCATION.

Thesis : The supervision of all secondary education in public high-schools, private schools, and endowed academies, by the State or municipal authority. Discussion.

Thesis : The course of study in secondary schools designed simply to prepare pupils for life (or designed as a finishing school)—should it be different from that designed to prepare students for college or the professional school ? Discussion.

Thesis : (a) Should the amount of time given to mathematics in secondary schools (as they are) be diminished ? (b) Should the amount of time given to languages in our secondary schools (as they are) be diminished, in order to make room for a more extended course in physics, botany, and chemistry ? Discussion.

Thesis : Should art studies, including

drawing, painting, and modeling, form a part of the prescribed course for all pupils in secondary schools ? Discussion.

Thesis : Should algebra or geometry come first in the course of study of secondary schools ? Discussion.

Thesis : In cases where a choice should be made, which should come first, Latin or some modern language, in the course of study of secondary schools ? Discussion.

ELEMENTARY EDUCATION.

Thesis : Should morals, language, numbers, geography, history of the country, writing, and drawing be considered the essentials of the course of study for the eight years of elementary instruction, the pupils being from six to fourteen years of age ? Discussion.

Thesis : What should be added to the essential branches of the elementary course of study to meet the industrial needs of localities or race characteristics ? For example, should city schools introduce branches relating to commerce or manufactures, or should rural schools introduce agriculture, chemistry, and botany ? Discussion.

Thesis : Improvement in methods of teaching geography in the public schools. Discussion.

Thesis : Physiography as related to geology. Discussion.

Thesis : The relation which may and should exist between the National Geographical Society and the public schools. Discussion.

National Geographical Society.

Address : Arctic Explorations. By General A. W. Greely, U. S. A.

General topic : Morals, religion, and citizenship.

Thesis : Is it possible to separate religious and moral instruction ? Should religious instruction be introduced into the public or common schools, and taught either by the regular teacher or by clergymen ? Should the Bible be read as a religious exercise ? In how far can the discipline of the school be relied upon to secure moral habits ? Discussion.

Thesis : How far should moral education

be made to include courtesy and social etiquette? What school exercises are the best to promote education for citizenship? In what ways can the studies of the common school, such as history and literature, be made to develop the sentiment of patriotism? What special work should be undertaken in the elementary school to prepare the pupils for the duties of citizenship? Discussion.

KINDERGARTEN INSTRUCTION.

General topic of the first session: The essential characteristics of the kindergarten as distinguished from the primary school, and the practical adjustment of the former to the latter.

1. Thesis: (1) The essential characteristics of a kindergarten. (2) Its gifts and occupations. (3) Should the kindergarten attempt to teach reading or writing? (4) Should the plays and games which Froebel invented, be modified? Should substitutions be made for any of them, or others be added? (5) What is the place and value of the song in the kindergarten, and the degree of dramatic element which should accompany the song?

Thesis: (1) The organic union of kindergarten and primary school. (2) What modifications in the primary school are necessary or desirable in order to adapt it to continue the work of the kindergarten and reap the advantages of the training already received? (3) What are the essential differences in discipline and instruction that should characterize the primary school and distinguish it from the kindergarten?

Thesis: (1) Preparation of the kindergarten for her work. (2) Should all kindergarten teachers be required to pass examination in secondary studies, including such as algebra, geometry, modern or ancient languages, general history, natural science, psychology, and English literature or the literature of the native country? (3) What training in Froebel's philosophy should be prescribed in a professional course of training for the kindergarten? (4) What work in the gifts and occupations, the plays and games, theoretically and practically, should be required for the graduate from a kindergarten training school?

Thesis: (1) Educative value of hand-work in the kindergarten. (2) Cautions to be observed as to the limits of certain of the occupations, such, for example, as pricking paper, and other work that is liable to strain the eyes if too long continued. (3) The Froebel system of drawing, in contrast to free-hand drawing. (4) The characteristic mental and physical conditions of the first seven years of child-

hood, which determine the special educative value of hand-work in the kindergarten.

Thesis: (1) To what extent is the use of symbolism justifiable in the kindergarten? (2) Is there any validity to the claim often urged that the child under seven years of age is to be distinguished in psychological development from the child of more than seven years of age, through his greater dependence upon symbolic modes of instruction? Is the distinction a valid one, between symbolic and conventional studies, conventional studies being understood to mean reading, writing, written arithmetic, and appliances useful in intercommunication but not emblematic or symbolic of a second and higher meaning?

Thesis: What should be the character of the stories told in the kindergarten, and to what extent should stories be told?

SCHOOL SUPERVISION.

Thesis: Teachers' examinations, certificates, and licenses. What scholastic knowledge should be required from teachers before being permitted to enter on a term of probationary service—In English? In languages other than English? In natural science? In physics and chemistry? In mathematics? In art? Discussion.

Thesis: How to improve the work of poor teachers. Discussion.

Thesis: How to interest a corps of teachers in the study of psychology and its application to the work of the school-room. Discussion.

Thesis: University participation for teachers. Discussion.

Thesis: Appointment and tenure of office of superintendents. Discussion.

Thesis: Who shall appoint teachers, and on whose nomination? Discussion.

Thesis: At what point in the course of study should departmental or special teachers be employed in elementary schools? Discussion.

Thesis: Should the law require the attendance of all pupils in school between the ages of eight and fourteen? Discussion.

PROFESSIONAL TRAINING OF TEACHERS.

General topic of discussion: Schools of practice or "model" schools connected with the schools for the professional training of teachers.

Thesis: (1) The kind and degree of preparation required before coming to the school of practice. (2) The time in the course of preparation when the practice should be taken. (3) The value and extent of observation work in the model school. (4)

Amount and character of criticism to be recommended. (5) Value of practice work in filling temporary vacancies caused by the absence of the regular teacher (called "substituting"). (6) Value of teaching practice within the normal school, the lessons being given to classes composed of one's fellow-classmates. (7) Shall the instructors of branches be the critics in their own branches? (8) Shall the critic be always present? (9) How much practice shall be required each day, and how long continued? (10) How often should the classes taught be changed? (11) What degree of perfection in teaching shall be required in order to entitle the candidate to a diploma? (12) Is the plan a good one to have a paid teacher in charge of each class in the school of practice, said teacher doing a portion of the work of teaching and, in addition, criticising the work of the pupil teachers? (13) The value of sending pupils out into neighboring schools to observe and occasionally take charge of classes. Discussion.

General topic: Schools for the professional training of teachers.

Thesis: (1) The classification of the several grades of normal and training schools. (2) Professional schools for the training of teachers for the work of higher education in normal schools, colleges, and universities. (3) For the training of teachers for secondary schools. (4) For the training of teachers for elementary schools. (5) For the training of teachers for kindergartens. (6) For the training of teachers for rural schools. (7) The standards required in these different grades, (a) as to scholastic instruction, (b) as to psychological and technical instruction, (c) as to practice teaching under criticism. Discussion.

Thesis: Should the course of study in normal schools be wholly professional, or should it include work in the elementary and secondary branches, even where proficiency in these branches is required as a condition for admission; if so, to what extent? Discussion.

Thesis: How does the typical normal school work differ in method from that of secondary or higher education? Discussion.

General topic: What should be required of one upon whom is to be conferred the doctor's degree of pedagogy?

Thesis: (1) Should such requirements be confined to scholastic instruction? What should be required in the way of teaching ability, experience, and skill? (2) Should original investigation be required in some branch of child study? (3) Or in some phase of the history of education? (4) Or in some branch of experimental psychology with a view to determine questions in regard to the educational

value of some branch or branches in the curriculum of elementary or secondary schools? Discussion.

Thesis: What value should be attached to the formal study of children in the training of teachers? Discussion.

ART INSTRUCTION.

General topic: Methods of teaching drawing.

Thesis: Whether the pupil shall first take a course of drawing from the flat in order to learn the technique of representation? Discussion.

Thesis: How early shall the pupil begin to use models? Discussion.

Thesis: Should the objects to be drawn as models be artistically beautiful, or shall the pupil practice drawing real objects without reference to the æsthetic question? Discussion.

General topic: All art study should aim first to familiarize the pupil with the chief types of the great works of art with a view to cultivating the artistic taste.

Thesis: The pupil should study and analyze a series of works from the great masters, describing in language in the form of essays the general theme and the methods adopted of making the work of art tell its own story; the technical difficulties and successful devices of the artist in completing his work of art. Discussion.

Thesis: The pupil should copy or make a drawing of the work of art which he has learned to analyze, and his exercise should be criticised by fellow-pupils and teacher, making clear the respects wherein he has failed to seize the motives of the artist, or to reproduce his (the artist's) devices of representation. Discussion.

Thesis: Works of sculpture after being studied analytically and reproduced in drawings should be modeled in clay, and works of painting after such preliminaries should be copied in painting by the pupil. Discussion.

Thesis: Connected with the learning to model in clay, wax, or other material, the pupil should have a series of lessons on the limitations belonging to the arts of painting and sculpture, and discuss what subjects can properly be treated in sculpture and what more properly belong to painting. Discussion.

Thesis: Should drawing commence from the beginning with light and shade, or should it be outline drawing for the first year or more? Discussion.

INSTRUCTION IN VOCAL MUSIC.

General topic: The course of study, or what the pupil should learn of vocal music

in the elementary schools for children aged five to fifteen years.

In what grades of the elementary school should the children learn pieces of music by rote (or by ear only), and in what grades should they commence to learn to read musical notation? Discussion.

In what grades or at what ages should pupils be required to take up part singing, or learn other parts besides the soprano or melody? Discussion.

What music is especially adapted to children from five to ten, and what from ten to fifteen years? What rule should guide the selection from popular songs? from classic composers? A discussion of the characteristics of the compositions of such song-writers as H. G. Nägeli, Fr. Silcher, C. H. Rink, Fr. Kuecken, and the higher classical composers, Beethoven, Mozart, Mendelssohn, Schubert, Von Weber, Handel, Schumann, Kreutzer, Abt, Haydn, Rossini, and others, who furnish the best selections for pupils in their fifteenth year and upwards.

The feasibility of forming a library of pieces of music of permanent value for the different ages of youth—say, for example, selections from such composers as Nägeli for pupils from five to ten years, and from such as Mendelssohn for pupils from eleven to fifteen years. Discussion.

The danger of confining the course of study in music for a too long period to reading and singing mere mechanical exercises devoid of artistic merit and empty of all thought and feeling. Discussion.

The importance of including in the child's musical course popular songs of a permanent character, such as the national patriotic airs, the great religious hymns, the emotional utterance of pure sentiments, like love of home, friendship, generosity, industry, sobriety, respect for others, self-denial, and general right doing. Discussion.

General topic: The qualifications requisite for a teacher of vocal music.

His knowledge of the physiology and hygiene of the vocal organs; the degree of strain that the vocal chords will bear without injury, at the periods of growth from five years to fifteen years. Discussion.

His ability to accompany the voice with some instrument, say the piano or violin. Discussion.

His knowledge of classic music and of the best course of study to lead up to it. Discussion.

His knowledge of methods of instruction. Discussion.

Is a knowledge of the higher science of counterpoint essential to the special teacher of vocal music, in view of the alleged fact that if he lacks such knowledge he will not

be able to direct the course of musical study progressively from the elements toward a sufficiently high goal? Discussion.

What musical studies in the great masters should the teacher keep up from year to year for the sake of his own improvement and culture? Discussion.

General topic: The methods of teaching and learning vocal music.

What are the respective functions of the regular class teacher and the special teacher of vocal music? Discussion.

The relative importance of correcting errors in musical enunciation; in keeping time; in proper expression; in proper posture of the body; opening the mouth; breathing; in attempting to sing notes of too high or too low a pitch for the degree of physical development. Discussion.

The danger of laying too much stress on the mechanical part of singing, to the neglect of musical expression. Discussion.

The systems of musical notation—tonic *sol-fa*—"movable *do*" and "fixed *do*" systems. Discussion.

What pupils, if any, should be excused from the musical exercises of the school-room? Discussion.

TECHNOLOGICAL INSTRUCTION.

Address by General Francis A. Walker, President of the Department.

Thesis: How far do the technological schools, as they are at present organized, accomplish the training of men for the scientific professions, and how far and for what reasons do they fail to accomplish their primary purpose? Discussion.

General topic: Educational value of technical study."

Thesis: Workshop practice as an educational means. Discussion.

Thesis: The educational value of the study and practice of chemistry. Discussion.

Thesis: The early history and organization of the Sheffield Scientific School at New Haven. Discussion.

Thesis: The educational value of laboratory work in exact measurement. Discussion.

Thesis: The educational value of the laboratory study of electricity. Discussion.

Thesis: The educational value of work in mechanical drawing and architectural drawing. Discussion.

Thesis: Shop-work and drawing as a means of developing slow pupils. Discussion.

Thesis: The educational value of natural science. Discussion.

Thesis: The educational value of applied mathematics, including engineering. Discussion.

Thesis: On the educational value of pure mathematics. Discussion.

Thesis: On the educational process of training an engineer. Discussion.

INDUSTRIAL AND MANUAL INSTRUCTION.

Introductory address by the President of the Department, Prof. J. D. Runkle.

Thesis: The new demands which the world's industries make upon the elementary schools. This question will be considered under the heads of ethics, education, economics. Discussion.

Thesis: In courses of mechanic arts, instruction in wood and metals, consider the relative educational values of:

(a) A series of graded models embracing the fundamental principles of the art.

(b) A series of completed, and more or less useful, articles.

(c) A shorter course in the arts, and then a specialization with reference to some definite industrial pursuit, as in the French schools. Discussion.

Thesis: The claims of the two systems of manual training known as:

(a) The Russian.

(b) The Swedish or Slöjd. Discussion.

Thesis: Since all industrial products involve form, it follows that all industrial instruction should have an aesthetic basis, or the study of the general principles which underlie all tasteful and graceful forms, and this study should be regarded and ranked as of equal educational value with the mechanic art processes. Discussion.

Thesis: Primary Schools—Into what grades and with what subjects should industrial and manual instruction be introduced? Discussion.

Thesis: Primary Schools—In these grades should boys and girls receive the same instruction? Discussion.

Thesis: Grammar Schools—Should boys and girls have the same industrial and manual instruction in all the grades? If not, what should the difference be? Discussion.

Thesis: Mechanic Art High Schools—The place such schools hold in a public educational system. If they are regarded as special technical schools, to what extent may they be used as fitting schools for industrial pursuits? Discussion.

BUSINESS EDUCATION.

Thesis: Evolution of the business college.

Thesis: Practical advantages of business college training. Discussion.

Thesis: Business college teachers and their equipment. Discussion.

Thesis: Reciprocal relations and benefits of business colleges and other departments of education. Discussion.

Thesis: The relation of business college instruction to industrial, commercial, and financial interests. Discussion.

Thesis: Graded courses in business education. Discussion.

Thesis: Limitations of business college instruction. Discussion.

Thesis: Business college training in counting-room work. Discussion.

Thesis: Higher aspects of business education. Discussion.

Thesis: Business colleges and the art of writing. Discussion.

Thesis: The business woman as daughter, wife, mother, and friend. Discussion.

Thesis: The value of a business education to women. Discussion.

Thesis: Business training for the world's charities. Discussion.

Thesis: Stenography and typewriting as branches of business education. Discussion.

Thesis: Teaching morals and manners through shorthand instruction. Discussion.

Thesis: What stenographers and the business community demand of business colleges in shorthand and typewriting instruction.

Thesis: Economics and social science in business education.

Thesis: A merchant's view of the business college. Discussion.

Thesis: A banker's view of the business college. Discussion.

PHYSICAL EDUCATION.

Address by Dr. Edward M. Hartwell, Director of Physical Training, Public Schools, Boston, Mass., President of the Department.

Thesis: Some unsolved problems in physical education. Dr. T. D. Wood, Professor of Hygiene and Physical Training, Leland Stanford Junior University, Palo Alto, Cal. Discussion.

Thesis: The cultivation of the human body. Dr. Angelo Mosso, Professor of Physiology, University of Turin, Turin, Italy. Discussion.

Thesis: The psychological aspects of exercise with and without apparatus. Dr. G. W. Fitz, Instructor in Physiology and Hygiene, Harvard University, Cambridge, Mass. Discussion.

Thesis: Should medical schools teach physical training? Dr. Lena V. Ingraham, Boston, Mass. Discussion.

Thesis: Supervision of school gymnastics by qualified physicians. Dr. Helen C. Putnam, Providence, R. I. Discussion.

Thesis: The Royal Central Gymnastic Institute of Stockholm—its aims and work. Prof. L. M. Törngren, Director of Royal Central Gymnastic Institute, Stockholm, Sweden. Discussion.

Thesis: How should physical exercises for school purposes be selected and graded? Dr. J. Gardner Smith, Supervisor of Physical Training in Public Schools, New York City. Discussion.

Thesis: The revival of Greek gymnastics in Germany. Jaro Pawel, University Teacher, Vienna, Austria.

Thesis: The movement for promoting popular and youthful sports in Germany. James L. Hughes, Inspector of Schools, Toronto, Ontario. Discussion.

Thesis: English experience in providing the poor of cities with out-of-door facilities for exercise. The Rt. Honorable the Earl of Meath, London, England. Discussion.

Thesis: The athletic movement in France. Baron Pierre de Coubertin, Paris, France. Discussion.

Thesis: The observation and study of movement and mental states. Dr. Francis Warner, Physician to London Hospital, London, England.

Thesis: The relation of physical training to other forms of education. Dr. G. Stanley Hall, President Clark University, Worcester, Mass. Discussion.

The physical training of deaf-mutes. A. Gutzmann, Instructor in City Institute for the Deaf and Dumb, Berlin, Prussia.

Thesis: The physical training of criminals. Dr. H. D. Wey, State Reformatory, Elmira, N. Y. Discussion.

Thesis: The North American Turnerbund; its history, aims, and achievements. H. Muench, ex-President N. A. Turnerbund, St. Louis, Mo.

Thesis: The normal school of the N. A. Turnerbund. J. Toensfeldt, St. Louis, Mo.

Thesis: The physiology of the German system of gymnastics. Hans Ballin, Sandusky, O.

Thesis: School gymnastics in the Kingdom of Saxony. Moritz Zettler, Teacher in Gymnasium in Chemnitz, Saxony.

Thesis: Swedish school gymnastics in England. Mme. Bergman Oosterberg, London, England. Discussion.

Thesis: Swedish military gymnastics. Capt. Carl Silow, Instructor Royal Central Gymnastic Institute, Stockholm, Sweden. Discussion.

Thesis: The laws of muscular and nervous fatigue and their relation to physical education. Dr. Warren P. Lombard, Professor of Physiology, University of Michigan, Ann Arbor, Mich. Discussion.

Thesis: Physical education in the South. Dr. William A. Lambeth, University of Virginia, Charlottesville, Va.

Thesis: Physical education in Canada. Dr. R. Tait Mackenzie, McGill University, Montreal, Canada.

Discussion: How far is it desirable to attempt to secure State legislation (in the United States) making physical training compulsory in the public schools?

RATIONAL PSYCHOLOGY IN EDUCATION.

Address by the President of the Department. Rev. James McCosh, D.D. *Topic*: Reality—what place has it in philosophy? Discussion.

Thesis: Can psychology be founded on consciousness alone, or does it need physiology? Discussion.

Thesis: Perception, conception, and primitive truth. Discussion.

Thesis: Aristotle's doctrine of a first principle, as set forth in the XIth book of his *Metaphysics*. Discussion.

Thesis: Self-activity in education. Discussion.

Thesis: Wundt's psychology of the will. Discussion.

EXPERIMENTAL PSYCHOLOGY IN EDUCATION.

General topic: Child study.

Address by the President of the Department. Dr. G. Stanley Hall: Child study as a basis for psychology and psychological teaching. Discussion.

Thesis: The imaginations of children. Discussion.

Thesis: Exercise of the will in children. Discussion.

Thesis: A study of children's theology. Discussion.

Thesis: Child study as a basis for pedagogy. Discussion.

Thesis: The new psychology in normal schools. Discussion.

Thesis: Constitutionally bad spellers. Discussion.

Thesis: Systematic cultivation of self-consciousness in children. Discussion.

Thesis: Development of motor ability in school-children. Discussion.

Thesis: A pedagogical experimental need. Discussion.

EDUCATIONAL PUBLICATIONS.

Address of welcome by Dr. Henry Barnard, President of the Department.

Thesis: Present ideals in educational

journalism from the superintendent's point of view. Discussion.

Thesis : The educational press and the public. Discussion.

General topic : The history of educational journalism.

Thesis : The history of educational journalism in France. Discussion.

Thesis : The history of educational journalism in Germany. Discussion.

Thesis : The history of educational journalism in Italy. Discussion.

Thesis : The history of educational journalism in Mexico. Discussion.

Thesis : The history of educational journalism in the United States. Discussion.

LIST OF PERSONS ACCEPTING THE OFFICE OF HONORARY VICE-PRESIDENT OF THE GENERAL CONGRESS.

AFRICA.

M. B. Buisson, Director of the Normal School of Tunis, Tunisie.

AUSTRALASIA.

Hon. W. P. Reeves, Minister of Education, Wellington, New Zealand.
Miss C. H. Spence, South Australia.

AUSTRIA.

Prof. Joh. von Radinger, Rector Polytechnicum, Vienna.
Herr Ed. Scholz, State School Inspector, Vienna.

ARGENTINE REPUBLIC.

Señor Dr. F. de la Barra, Member of National Council of Education, Buenos Ayres.
Señor C. Guido F. Spano, Member of National Council of Education, Buenos Ayres.
Señor Felix Martin y Herrera, Member of National Council of Education, Buenos Ayres.
Señor B. Zorrilla, President of the National Council of Education, Buenos Ayres.
Señor Julio A. Garcia, Member of National Council of Education, Buenos Ayres.

BELGIUM.

Son Excellence M. J. de Burlet, Minister of the Interior and of Public Instruction, Brussels.
Dr. Eugène Janssens, Brussels.

CHILI.

Sua Excelencia Don Pedro Montt, Santiago.

COSTA RICA.

M. Gustav Michaud, San José.

CUBA.

Señor Victorio R. Ventura y Fernandez, Havana.

CANADA.

Hon. S. D. Pope, LL.D., Secretary, Council of Public Instruction, Victoria, British Columbia.
Hon. J. R. Inch, Chief Superintendent of Education, Fredericton, New Brunswick.
Hon. A. H. Mackay, B.A., B.Sc., LL.D., F.R.S.C., Superintendent of Education for Nova Scotia, Halifax.
Dr. James A. McLellan, Principal, School of Pedagogy and Inspector of Normal Schools, Toronto, Ontario.
Hon. Gédéon Ouimet, Superintendent of Public Instruction, Quebec, Quebec.
Hon. J. G. Hodgins, M.A., LL.D., Toronto, Ontario.

Hon. G. W. Ross, LL.D., Minister of Education, Toronto, Ontario.
Prof. Goldwin Smith, Toronto, Ontario.
Rev. Principal G. M. Grant, Queen's University, Kingston, Ontario.

ECUADOR.

Señor Rafael Barabona, Professor of the Faculty of Medicine, University of Quito, Quito.
Señor Fr. Ignacio Salazar, Archivo del Poder Legislativo, Quito.

FINLAND.

Senator Chas. Emil Ignatius, Helsingfors.

FRANCE.

M. Berthelot, Vice-President of the Superior Council of Public Instruction, Paris.
M. F. Buisson, Director of Primary Instruction in the Ministry of Public Instruction, Paris.
M. Michel Bréal, Member of the "Institut," Professor "Collège de France," Paris.
M. A. Carnot, Superior National School of Mines, Paris.
M. G. Compayré, Rector of the Academy of Poitiers, Poitiers.
Superior General Frère Joseph (M. Jossierand), Institute of the Brothers of the Christian Schools, Paris.

GERMANY.

Herr A. Berthelt, Oberschulrath, Chief Councilor of Education, Dresden.
Dr. Brandenberg, R. Inspector of District and City Schools, Cologne.
Dr. Rud. Buddensieg, Director Teachers' Seminary, Dresden.
Prof. Dr. Johann Conrad, University of Halle.
Prof. Dr. Herm. Cohn, Ph.D., University of Breslau.
Prof. Dr. Dittmar Finkler, Imperial Royal Commissioner of the German Exhibits, World's Columbian Exposition, Bonn.
Frl. Helene Lange, Central Committee, Berlin.
Frau Loeper-Housselle, Editor "Die Lehrerin," Weimar.
Herr Fr. Junge, Headmaster, Kiel.
Dr. Nock, President of the Ministry of Justice, Public Worship and Instruction, Karlsruhe.
Prof. Dr. Wilhelm Preyer, University of Berlin.
Prof. Dr. Wm. Rein, Pedagogical Seminary, Jena.
Prof. Dr. Ludw. Strümpell, University of Leipzig.
Prof. Dr. Stephan Waetzold, Imperial Royal Commissioner of German Educational Exhibits, World's Columbian Exposition, Berlin.
Prof. Dr. Weyrauch, Rector of Polytechnicum, Stuttgart.
Prof. Dr. Wiener, Dir. Polytechnicum, Karlsruhe.
Prof. Dr. Theo. Ziegler, University of Strassburg.

GUATEMALA.

Señor G. E. Guzman, Director of General Statistics, Guatemala.

HUNGARY.

Prof. Imre, Hungarian Academy of Sciences, Budapest.
Prof. I. Paucz, Budapest.

ITALY.

Signor Quintino Carrera, Director of the Public Library, Turin.
Signor Fedele Lampertico, Member of the Superior Council of Statistics, Vicenza.
Sua Altezza la Principessa Strongoli, Naples.
Signor Dr. Egisto Rossi, Rome.

JAPAN.

Mr. S. Tejima, Imperial Japanese Commissioner for the World's Columbian Exposition, Tokyo.
Tsudji Shindji, Minister of Education, Tokyo.

GREAT BRITAIN.

ENGLAND.

Miss Dorothea Beale, Cheltenham Ladies' College, London.
Rev. Dr. Henry Boyd, Vice-Chancellor, Oxford.
Prof. James Bryce, Oxford University, Oxford.
J. G. Fitch, Esq., London.
Prof. Fr. Max Müller, Oxford University, Oxford.
Dr. T. J. Barnardo, Home for Destitute Children, London.
Rev. Hugh Price Hughes, M.A., London.
T. Scott Keltie, Assistant Secretary to the Royal Geographical Society, London, W. C.
Hon. A. J. Mundella, M.P., London.
Sir Bernhard Samuelson, M.P., London.
Swire Smith, Lowfield, Keighley, National Association for the Promotion of Technical and Secondary Education.
Hon. Lyulph Stanley, M.P., London.
Prof. Silvanus P. Thompson, London.

IRELAND.

Rt. Hon. Sir Patrick J. Keenan, Commissioner of National Education, Dublin.

NETHERLANDS.

Dr. P. F. Hubrecht, Secretary-General of the Ministry of the Interior, The Hague.

NORWAY.

Dr. D. F. Knudsen, Chief of the Department of Public Instruction, Christiania.

PORTUGAL.

Dom Ignacio Fr. Silveira da Mota, Secretary-General of Ministry of Justice and Ecclesiastical Affairs, Lisbon.

RUSSIA.

Monsieur L. de Dimacha, Professor agrégé attached to the University of St. Petersburg, Delegate of the Ministry of Public Instruction at the World's Columbian Exposition, St. Petersburg.
Monsieur Ergraff Kovalevsky, Delegate of the Ministry of Public Instruction at the World's Columbian Exposition, St. Petersburg.
Prince Serge Wolkonsky, Delegate of the Ministry of Public Instruction at the World's Columbian Exposition, St. Petersburg.

SPAIN.

Señor Don Manuel Ruiz de Quevedo, President of the Association for the Instruction of Women, Madrid.
Señor Don Federico de Botella, President of Royal Geographical Society, Madrid.
Señor Don Nunez de Arce, Madrid.
Señor Don Rafael Maria de Labra, Madrid.

SWITZERLAND.

Prof. F. Bluntschli, Architect, Zürich.

URUGUAY.

Señor Dr. F. A. Berra, Montevideo.
Señor Honoré Roustan, Director of General Statistics, Montevideo.

UNITED STATES.

ALABAMA.

Col. N. H. R. Dawson, Ex-Commissioner of Bureau of Education, Selma.

CALIFORNIA.

Hubert H. Bancroft, the Bancroft Library, San Francisco.

DISTRICT OF COLUMBIA.

Prof. A. Graham Bell, Washington.
Dr. J. L. M. Curry, Agent Peabody Fund, Washington.
Dr. E. M. Gallaudet, President National Deaf-Mute College, Washington.
Prof. G. Brown Goode, Director National Museum, Washington.
Rt. Rev. John J. Keane, Rector Catholic University of America, Washington.
Edwin Willets, Department of Agriculture, Washington.
Bishop T. M. D. Ward, D.D., Washington.
Dr. T. C. Mendenhall, Superintendent Coast and Geodetic Survey, Washington.
Prof. Alex. A. Oldrini, Washington.

GEORGIA.

Rt. Rev. A. Grant, A. M. E. Church, Atlanta.
Rt. Rev. H. M. Turner, A. M. E. Church, Atlanta.

ILLINOIS.

Rt. Rev. J. L. Spalding, D.D., Bishop of Peoria.
Miss Frances E. Willard, Evanston.
Mrs. H. N. Wilmarth, Chicago.
Brother Maurelian, De La Salle Institute, Chicago.

INDIANA.

Hon. W. N. Hailmann, Superintendent of Schools, La Porte.

IOWA.

Dr. J. L. Pickard, LL.D., State University, Iowa City.

KANSAS.

Rt. Rev. J. A. Handy, A. M. E. Church, Kansas City.

KENTUCKY.

Judge Wm. Beckner, Winchester.

MARYLAND.

His Eminence Cardinal Gibbons, Baltimore.

MASSACHUSETTS.

Edward Atkinson, Boston.
 George W. Cable, Northampton.
 Mrs. Ednah D. Cheney, Jamaica Plain, Boston.
 Hon. George F. Hoar, U. S. Senate, Washington,
 D. C.
 Mrs. Mary A. Livermore, Melrose.
 Mrs. Mary Hemenway, Boston.
 Edwin D. Mead, Boston.

MINNESOTA.

His Grace John Ireland, Archbishop of Minnesota,
 St. Paul.

NEBRASKA.

Bishop J. P. Newman, Omaha.

NEW HAMPSHIRE.

Hon. H. W. Blair, Ex-Chairman Senate Committee
 on Education, Washington, D. C.

NEW YORK.

Rev. Lyman Abbott, Editor of "Christian Union,"
 New York.
 Prof. Vincenzo Botta, Columbia College, New York.
 Dr. Hamilton W. Mabie, Office of the "Christian
 Union," New York.
 Dr. David Murray, New Brunswick.
 Hon. T. L. Morgan, New York.
 Hon. Hugh S. Thompson, New York.
 Dr. Anson J. Upson, Chancellor of University of
 the State of New York, Albany.

OHIO.

Hon. Vincent A. Taylor, House of Representatives,
 Washington, D. C.
 Rt. Rev. D. A. Payne, A. M. E. Church, Wilber-
 force.

PENNSYLVANIA.

Hon. D. B. Brunner, House of Representatives,
 Washington, D. C.
 Dr. H. L. Wayland, Editor of the "National Bap-
 tist," Philadelphia.

SOUTH CAROLINA.

Rt. Rev. M. B. Salter, A. M. E. Church, Columbia.

TENNESSEE.

Hon. B. A. Enloe, Chairman of Committee on Edu-
 cation, House of Representatives, Washington,
 D. C.

TEXAS.

Rt. Rev. B. F. Lee, A. M. E. Church, Waco.

VIRGINIA.

Hon. George D. Wise, House of Representatives,
 Washington, D. C.

WYOMING.

Hon. J. M. Carey, Chairman of Senate Committee
 on Education, Washington, D. C.

INTERNATIONAL CONGRESS OF EDUCATION.

THE GENERAL SESSIONS.

SECRETARY'S REPORT.

FIRST DAY'S PROCEEDINGS—3 O'CLOCK P.M., JULY 25, 1893.

THE first general session of the International Congress of Education was held in the Hall of Columbus, in Memorial Art Palace, Chicago, at 3 o'clock P.M., Tuesday, July 25, 1893. It was called to order by Hon. Charles G. Bonney, President of the World's Congress Auxiliary.

Rev. F. A. Noble, D.D., of Chicago, opened the meeting by prayer.

President Bonney, of the World's Congress Auxiliary, gave an address of welcome.

Among the eminent educators upon the platform there were present the following: General John Eaton, ex-Commissioner of Education, U. S. A.; Dr. Stephen Waetzoldt, Professor in the University of Berlin; Dr. Dittmar Finkler, Professor in the University of Bonn; Dr. L. M. Törngren, Director of Royal Central Gymnastic Institute, Stockholm; Prof. L. Dimscha, St. Petersburg University, Russia; Dr. Selim H. Peabody, Chief of Department of Liberal Arts, World's Fair; Prince Serge Wolkonsky, Delegate of Russian Ministry of Public Instruction; Dr. Edwin Österberg, Delegate from Sweden; Dr. N. G. W. Lagerstedt, Delegate from Sweden; M. B. Buisson, Delegate from France; Dr. G. W. Ross, Minister of Education, Ontario, Canada; John Millar, B.A., Deputy Minister of Education, Ontario; Dr. N. A. Calkins, Chairman Board of Trustees of National Educational Association, New York; Prof. Irwin Shepard, Secretary National Educational Association, Winona, Minn.; Dr. B. A. Hinsdale, Professor of the Science and Art of Teaching, University of Michigan; Dr. James C. Mackenzie, Lawrenceville, N. J.; Dr. E. Ribera, Professor of Institute de la Universidad, Valencia, Spain; Dr. J. M. Harper, Quebec; Dr. Paul Hoffman, Assistant Superintendent of New York City Schools; William Jenkins, Superintendent of Illinois School Exhibit, Mendota, Ill.; Zalmon Richards, Washington, D. C.; William A. Obenchain, President of Ogden College, Bowling Green, Ky.

The Rt. Rev. Samuel Fallows, Chairman of the General Committee of the Educational Congress, gave additional words of welcome.

Mrs. Charles Henrotin, Vice-President of the Woman's Branch of the World's Congress Auxiliary, gave further words of welcome; Mrs. Henry M. Wilmarth, Chairman of the Woman's General Committee on the Educational Congress, followed.

Dr. Selim H. Peabody, Chief of the Department of Liberal Arts, extended the welcome in behalf of the "White City" in Jackson Park, and invited the members to visit the Liberal Arts Building at 3 o'clock P.M., Thursday, July 27th.

Hon. William T. Harris, United States Commissioner of Education, and chairman of the committee appointed by the National Educational Association to take special charge of the International Educational Congress, which opens this day, presented the Report of the Committee.

Hon. Albert G. Lane, as Superintendent of Public Instruction for the City of Chicago, welcomed teachers to the city; and as President of the National Educational Association introduced Dr. James B. Angell, of the University of Michigan, as President of the General Sessions of this Congress.

On taking the chair, President Angell expressed his thanks for the honor conferred on him, and, in behalf of the Congress, tendered appreciation and gratitude to those who had made such careful provision for these meetings.

The following resolution, offered by President Lane, was unanimously adopted :

Resolved, That as members of the National Educational Association, and of the International Congress of Education now assembled, we return our thanks to Dr. Selim H. Peabody, Chief of the Department of Liberal Arts, for his cordial invitation to visit the Exposition and the Educational Exhibit at 3 o'clock on Thursday afternoon next, and that we do hereby accept the same.

President Angell then announced the appointment of Irwin Shepard, Secretary of the National Educational Association, as the General Secretary of the World's International Congress of Education, and that all secretaries and stenographers of the fifteen department congresses are requested to report to the General Secretary.

The meeting then adjourned to 8 o'clock P.M., Tuesday, July 25th.

EVENING SESSION—JULY 25TH.

The second general session of the International Congress of Education was held in the Hall of Columbus at 8 o'clock P.M., Tuesday, July 25th. The meeting was called to order by President Angell, who gave the first address of the evening. Addresses were also given by Prince Serge Wolkonsky, of Russia; by M. B. Buisson, of France; Hon. G. W. Ross, of Ontario, and by Dr. Stephen Waetzoldt, of Germany. This last address was delivered in German, and the manuscript was not furnished for publication. Owing to absence of Sir Truman Wood, Secretary of the Royal Commission of Great Britain, and also of M. Gabriel Compayré, of France, neither of their papers was presented.

The meeting adjourned to meet Friday, July 28th, at 8 o'clock P.M.

THIRD GENERAL SESSION.

The closing meeting of the general sessions of the International Congress of Education was held in the Hall of Columbus at 8 o'clock P.M., Friday, July 28, 1893.

The meeting was called to order by President Angell, who introduced Miss E. P. Hughes, Principal of the Cambridge Training College for Teachers. The subject of her paper was, "The Professional Training of Teachers for Secondary Schools."

The Rt. Rev. John J. Keane, of Washington, D. C., addressed the Congress upon "The Relation between Educational Methods and Educational Ends."

Prof. L. Dimscha, of St. Petersburg, Russia, gave an address on "Legal Education in the United States."

M. Gabriel Compayré, President of the French Commission on Education, gave an address on "The Present Situation of Education in France."

Dr. L. M. Törngren, of Stockholm, Sweden, spoke on the subject, "A Perfect Physical Education is indispensable in order to produce an Ideal Education."

M. Ergraff Kovalevsky, Delegate of the Russian Ministry of Public Instruction, made a brief address.

A paper by Dr. Alberto Gomez Ruano, of Uruguay, was read. Subject: "Joseph Peter Varela and the Progress of Education in Uruguay."

Dr. Edward Österberg, of Sweden, gave an address on "Training of Teachers in High Schools in Sweden."

Closing remarks were made by President Angell, Dr. Harris, and C. G. Bonney.

ADDRESSES OF WELCOME.

ADDRESS BY CHARLES G. BONNEY, PRESIDENT OF THE WORLD'S
CONGRESS AUXILIARY.

Friends of Universal Education ; Educators of Many Lands : I bid you welcome to the International Congress of Education.

The Special Educational Congresses which have occupied the past eight days are closed, and the International Congress of Education, in which the leading departments of education will have appropriate presentation, is about to open. That the eighty-six sessions of the fourteen congresses held in this building during the time specified have more than realized the expectations entertained in regard to them, is agreed by all whose opinions I have heard expressed. We have enjoyed a series of gratifying surprises in the attendance given, the interest manifested, and the high character of the proceedings. Most noteworthy has been the spirit of peace and progress which has reigned supreme. Distinguished educators from many countries have met together as old friends to consider common interests and aims.

If the Special Congresses have been so satisfactory, what may we not expect from the International Congress of Education, in which all will take a part, with its fifteen separate department congresses, presenting a programme with forty-seven sessions ?

The original announcement of the World's Congresses of 1893, issued in September, 1889, included, among other subjects, " Educational systems, their advantages and their defects, and the means by which they may best be adapted to the enormous increase in all departments of knowledge."

The educational systems of the past have been outgrown. This fact is so obvious that it needs neither argument nor illustration. Those systems were but local and temporary, and could not permanently endure. The old education had no place for those important departments which are the peculiar glory of the new. The kindergarten, manual and art training, technological instruction, business education, practical psychology, are new gifts to the educational world.

Modern science is itself a new world, created within the memory of living men. In all of the old branches of learning there has been a wonderful increase of knowledge. There is now more of language and

literature ; more of natural science ; more of political and social science ; more of moral and intellectual science ; more of technological and constructive science, and more of other important branches of knowledge, than can be mastered during the school years.

What can be done to meet this emergency ?

The cruelty of cramming has been tried and abandoned as worse than utterly useless. The liberty of election has been enlarged and reënlarged without fully satisfactory results. But the difficulty not only remains ; it increases. We cannot meet it by suppressing knowledge ; we must endeavor to do so by enlarging the means and improving the system of education. The old curriculum was a pamphlet ; the new curriculum is a volume, growing larger from year to year.

While the learned world ponders the new educational problems and seeks a means of their solution, a new and tremendous influence enters the field and asks attention. It is the spirit of the new age, demanding international fraternity and coöperation in every department of civilized life. The institutions of learning have more than willingly responded to this call, and have manifested a desire to accede to it so far as sound reason may lead the way. A true and enduring educational system must have its national and international as well as its local relations.

The time has come to discriminate the universal from the particular, the requirements of all from the needs of the few, and form an educational system in which those discriminations will be preserved. The programmes of the Educational Congresses held during the past eight days, and those which are now to follow, show that the elements of a true educational system are at last at command. To some extent, the characteristics of the new education may already be discerned.

(1) While in the primary schools the kindergarten and the first rudiments of manual and art training will lay the foundation for future culture, the instruction will, for the most part, be limited to such knowledge as is universally necessary for intelligent human relations. In a word, the instruction imperatively demanded for the every-day needs of all classes will be the chief object of the primary schools.

(2) In the secondary schools will be given a knowledge of the existence and nature of all the sciences, arts, and callings, so far as may be necessary to enable the learner to select those in which he will be most likely to find his appropriate life-work. The learner must know that there is such a science as chemistry, such an art as engineering, and their general nature and scope, to enable him to decide whether in either of them, or in some other pursuit, he will be likely to be most serviceable to himself and his fellow-men.

(3) In the higher institutions of learning will naturally be given that thorough and prolonged culture in a carefully selected course of study, chosen with reference to a proposed life-occupation ; that careful and

efficient training and discipline which will qualify the student for the best discharge of the duties of that occupation.

(4) In the professional and technological schools there will be given both a theoretical and a practical training for the particular requirements and duties of a selected calling, such as law, medicine, engineering, agriculture, or any other.

Thus may be secured, in a rational order, that general knowledge which intelligent persons in all countries should possess; that mental culture and discipline of the brain which correspond to the skill and accuracy of the artisan's accomplished hand, and that special and adequate preparation required for the successful pursuit of a special calling.

Among the signs of the times which distinguish the new education from the old, a few may be briefly noticed.

First in order and importance I name the kindergarten, which for the first time in the whole history of the race actually established in the world the great idea that the schoolroom can and should be made a place of delight, and that a love of learning is vital to its attainment.

Next may be mentioned the training of the hand to perform what the mind has been taught to conceive and plan, thus providing against that "pathetic helplessness" sometimes found in very learned men.

Another important sign of substantial progress is in the introduction of practical psychology, to give both teacher and student that knowledge of the mind, its constitution, faculties, and operations, without which serious errors cannot be avoided.

Equally important is the idea, now well established, that the farmer, the manufacturer, the merchant, or other business man, needs a thorough education for his calling quite as much as do the professional classes for theirs. Modern experience has abundantly shown that a farm abandoned by ignorant incompetence as worn out and worthless can be made to blossom like the rose under an application of intelligent skill and scientific knowledge such as the higher institutions of learning impart.

Of vast importance and significance is the new movement of colleges and universities, under the name of University Extension, to ally themselves with the people. That alliance will prove of inestimable value to both.

In the highest sense, there is but one education, of which all schools and all instruction should form appropriate parts. If one cannot be a master of philology, or astronomy, or geology, or architecture, or engineering, it should, nevertheless, be his privilege to know enough of each to follow with pleasure and with benefit the achievements of its leaders.

In the new education we shall miss many things with which we have been familiar in the old. Among them will be the incredible folly of

attempting to eradicate the natural differences of mental endowment, and to reduce all to the dead level of the average attainments.

We shall miss the barbaric system of rewards and punishments, under which the most heroic efforts to overcome natural deficiencies were visited with humiliation, while merely natural gifts, without merit in their application, were conspicuously rewarded.

The new education will endure, because it will rest upon correct and eternal principles ; because it will be supported by an enlightened public opinion, and by the settled public policy of the enlightened nations of the world. The basis of this public policy is the truth that the true wealth of nations is in their men ; and that as a mere matter of self-interest they must provide for all, even the humblest, enough education to stimulate the development of latent genius.

The new education, extended as it will be throughout the world, will do as much as, if not more than, any other agency to promote the unity and peace of mankind. For by education we mean not merely the training of the intellect ; we mean also the culture of the heart and the hand. The golden circle of education embraces not only literature, science, and art, but it includes as well the whole broad domain of virtue, morals, and religion.

In conclusion, I extend to this World's Educational Congress my highest wishes for its success in every department, with many regrets that the arrangements for the congresses to be held during the month of August will prevent me from attending the sessions, in the proceedings of which I shall nevertheless feel a profound interest.

ADDRESS BY THE RT. REV. SAMUEL FALLOWS, CHAIRMAN OF GENERAL COMMITTEE ON EDUCATIONAL CONGRESSES.

Mr. President, Ladies and Gentlemen : We have been doing a little skirmishing the past few days preparatory to bringing on the general educational engagement. The light artillery has been doing its duty, and we shall very soon hear from the heavy guns. I can only hope that we may go on in the good way in which we have begun, and that this International Educational Congress, under the auspices of that grand National Educational Association, may end in the spirit in which the Congress of Education has begun.

Mr. Bonney in his excellent address has referred to the old and the new in education. I am a very firm believer in the old as well as in the new. Mr. Ruskin somewhere said that respect for antiquity is the salvation of art. I can say that respect for antiquity is the salvation of truth itself, and respect for antiquity must always be in the mind and heart of the enlightened educator. I think if our old friend Socrates were

here to-day in this gathering, which represents the very culmination of all the educational gatherings of the world, he would not find himself out of place. I think if he were to restate some of the things which he used to state, we should find that they would be the things which we insist upon as belonging *par excellence* to the new education. I think we should learn something from him about the value of object lessons; I think we should learn something about the power of the personality of the teacher. I think we should learn something of the way in which specific characters are to be specifically treated. And if we could bring a Plato on the one side and a Xenophon on the other, a man of the deepest and the highest philosophy, and a man having the most intensely practical interests in the affairs of life—if we could bring corresponding specimens of our new education as a result, just as he brought forth the result of the old education, we should be very well satisfied.

Now I bid you welcome on behalf of Chicago. We in our struggle to gain the supremacy among the cities of the United States have been putting victory on the run and keeping fame out of breath; but we are not here to boast of our numbers, our increasing miles of streets, our office buildings that are climbing up higher and higher toward the sky until the city council has said they shall not climb any higher; but we have the right, I think, to boast of our public schools in spite of some little criticism which has been made upon them. In the other room corresponding to this we were told a day or two ago that we had sixty thousand children in this city who could find no seats in the rooms of our public schools. Why is this? Simply because the people from every part of the globe have been crowding in upon us, and we have not been able to overtake the needs and necessities of our common-school children. But I pledge you on behalf of this great city of Chicago, that just as soon as possible we will have the amplest provision for every child within our limits; and if they are not able to go to school because not sufficiently or properly clad, they will be taken care of in that respect.

We are glad this congress is to be held in our city, so that our instructors may find their hands strengthened and the purposes of their hearts confirmed to make the school system of the city of Chicago second to none in the world.

Just one thought about the old, and I close. Glorious John Milton said that prose was his left hand, but I submit to you that the most eminent modern educator never wrote with the cunning right hand a truer meaning of education than John Milton wrote in the seventeenth century: "I count that a complete and generous education which fits a man to perform skilfully, justly, and magnanimously all the offices, both public and private, of peace and war." Who can surpass that definition of education? All the papers which are to be read at this congress, and all the discussions had upon them, will simply elucidate this idea. I know that the results

of this congress will be to throw a flood of light upon this subject, and the old and the new will be bound together as they never have been in the past in the education and lighting up of the moral powers of the child that is placed within our limits.

ADDRESS BY MRS. CHARLES HENROTIN, VICE-PRESIDENT OF THE WOMAN'S
BRANCH OF THE WORLD'S CONGRESS AUXILIARY.

Mr. President, Ladies and Gentlemen: The president of the Auxiliary, in his excellent address, to my mind did not mention the greatest factor in the new education. I see by the smiles on the faces of my sisters that they have divined what it is. That is the entrance of woman into the educational arena. She is found as the link between the child and the university, stretching out her hand, it is true, for the cap and the gown, but holding tight with the other hand the little child in the nursery. To my mind the entrance of woman means practicality in education. The kindergarten is here to stay with her. Manual training, sanitary conditions of schools are here, and while the universities will still flourish, the kindergarten will be all over the land.

As I have spoken of woman's practical influence, I shall confine myself for my part to two practical suggestions. One is that you visit and carefully study those wonderful educational exhibits at Jackson Park. We as a composite race can there see what is so essential to the development of our schools—England with her exact classical education, France so beautifully generous, always to art, and Germany with her scientific and technical training. It is invidious really to mention any, they have all been so splendidly generous toward us. The study of them will help us greatly, because we need not only thought, but the thought of all nations, for our harmonious and right development.

Then another practical thought. In attending all these sessions I have been impressed with the cry of each one that there is no standard of education to start from. Uniformity is a word tremendously abused in the past; but in all humility, to such an assembly as this I submit this suggestion, that the National Educational Association shall endeavor to establish in each city, whether under the State or the government, a Bureau of Education, in which every person who aspires to teach, whether in the private school or public school, shall obtain a license. That is the system adopted in France with splendid results, and I think if it were once inaugurated in our land it would give us a firmer basis on which to establish the newer education. And I will tell you for Chicago that you can say here just what you please. We have no prejudices to be shocked. In fact, we are very much like Athens of old, eager to see and hear always some new thing. (Applause.)

ADDRESS BY MRS. HENRY M. WILMARTH, CHAIRMAN OF THE WOMAN'S
GENERAL COMMITTEE ON THE EDUCATIONAL CONGRESSES.

Ladies and Gentlemen: The state has no more important function than to care for the education of its children. What the result of this education should be is matter of general agreement: that it should train the individual to reasonable thinking and adequate expression, to right estimate of values and to wise choices, to habits of right thinking and of right doing. The debatable ground, then, is only one of methods. For the ascertainment of these methods and what is best in them, the United States has had for more than thirty years a most able advisory counsel in the corporate body of this National Educational Association. This body, while neither executive nor administrative, and perhaps, therefore, the broader in its deliberations, and the firmer, has yet maintained its relation with the government, with the States, and with the cities, by including in its membership officially the representative heads of the government. And this Association has carefully provided on all points against excess and defect. In every department of education the National Association has had its representatives. The International Congress of 1893 could have no happier fortune than being able to secure the alliance of this body, and it has no greater gift to offer to the nations of the earth than the results of its deliberations.

ADDRESS BY DR. SELIM H. PEABODY, CHIEF OF THE DEPARTMENT OF
LIBERAL ARTS.

Mr. President, Ladies and Gentlemen, and Fellow-Teachers: I come here charged with a special and personal message to each one of you. Please keep it as special and personal, and be careful that you do not give it away to your friends. While you are engaged here in this magnificent congress, this coruscation of congresses, I want to say to you that there is an annex to this arrangement, further south upon the lake. It is sometimes spoken of as "The White City." Its location is between Hyde Park and Windsor Park, and it is the wonder of the present age. When I first saw this city, only two years ago last February, it was simply a succession of sand hills, separated by streams of water, and a marsh. The engineer brought his instruments therein, the dredge followed and gathered up the sands from a portion and elevated the surface of the remainder. The architect followed, and covered the whole surface with structures whose magnificence has never been surpassed. The sculptor has adorned these edifices, and painting has glorified them. The Acropolis, the Duomo of Florence, the buildings of the Champs de Mars, the

Trocadero, and multitudes of others have gathered themselves together on the banks of a new Venice, and produced what we call the "White City." Its beauty, its glory have come up like the hallucinations of a dream, and we mourn that in a few months we shall have only the barren surface again when these buildings are gone.

There have been gathered from all the portions of this round world, from every country and every clime, the material illustrations of every occupation, of every science, of every art of mankind at the close of this nineteenth century, and these have filled those buildings with such a grandeur of material as makes even the buildings themselves of minor significance. You may go for your lifetime and wander over the entire surface of the world, and you shall not find more than you can to-day find under the roofs of Jackson Park.

Each one of you will be earnestly and heartily welcomed to this place. We know that your first thoughts will be centered upon the congresses which are here, but in your leisure hours you may find at Jackson Park that which will fix your attention, such as can be found nowhere else.

You will ask me, where is the educational exhibit of the Fair? I answer you that it is all over Jackson Park, that such an education is there as has never been before brought to the men and women of this century; but there is in a specific place in this exhibit something which has more particularly the character of an educational exhibit, showing what educators are doing, what are their methods, and what the limits they attain. It covers a space more than double that which has ever been occupied in a similar way before. There was much and earnest effort to secure for this department a separate edifice and a special recognition. I have felt and earnestly appreciated all this effort, but I find to-day that the educational exhibit occupies the central place in the general exhibit that is found at Jackson Park. There is no place more worthy or fitting than this, which I say is the central place, which has round about it all the other material elements of the exhibit. There was a time when some of my friends, as they afterward wrote me, feared there would be no educational exhibit. That moment never occurred to me. I believed I knew that we should succeed in presenting to the teachers of America a full and rounded exhibit of this character.

It is not my place to speak of this further than to give you such thoughts as I have in regard to its extent and its position. I could explain some of the devious ways through which we passed before we were able to come out to the clear light and the broad field which the educational exhibit now occupies, but it is sufficient to say that in the vernacular of the time we "got there."

I have spoken of an invitation for you to come to examine, study, and make yourselves thoroughly familiar with this educational exhibit. I do not mean to suggest that you shall not cover the entire field of exhibits in

your endeavor to make yourselves familiar with what is there shown, but I am sure that you wish to give more special attention to what belongs more peculiarly to your own work. A general invitation is of very little consequence and of slight significance ; I therefore, with the consent of the officers of this Association, who I understand have made a vacancy on Thursday afternoon for this special purpose, wish to invite all within the sound of my voice to come to Jackson Park on Thursday afternoon. Will you make the Administration Building the center at which you will gather at as near to the hour of three o'clock as possible ? The Director General will be present to welcome you, and other officers of the Association will unite in assuring you of the great honor they will feel in your recognition ; and then we may wander through the portion of the great Liberal Arts building which is given to the educational exhibit. Let every one kindly accept this invitation.

HON. WILLIAM T. HARRIS, Chairman of the Committee of the National Educational Association having special charge of the International Educational Congress, was introduced by Charles G. Bonney in the following words :

Among the eminent ministers of education by whom the educational interests of nations are disseminated there are few, if any, who are more widely known or more distinguished for their success in administration than the Hon. Dr. William T. Harris, Commissioner of Education of the United States. His eminence in this field might seem to suffice for the ambition of any man, but fortunate it is for him and his associates that, when wearied with administrative duties, he seeks the retirement and the recreation which are to be found in the mountains of philosophy, and the brethren who dwell there, as they see him approach, hail and welcome him not only as brother but as chief.

The relations of Dr. Harris to the National Educational Association of this country, said to be the largest in numbers and the most potent in influence of any organization of the kind in any country, have been of the most intimate and cordial kind. When this Association learned of the proposal to hold this Educational Congress of 1893, they generously gave up their meeting for this year, appointed their committees, and instructed them to report programmes for 1894. In pursuance of that arrangement a special committee of organization was appointed, of which Dr. Harris was the executive head, to take especial charge, in coöperation with the officers of the World's Congress Auxiliary, of the organization of this International Educational Congress of 1893.

I have now the honor and the pleasure of presenting to you Dr. Harris, who will make to you a report of the organization of this congress and kindred matters.

REPORT OF COMMITTEE OF ARRANGEMENTS, NATIONAL EDUCATIONAL ASSOCIATION, ON INTERNATIONAL CONGRESS OF EDUCATION, BY HON. WILLIAM T. HARRIS, CHAIRMAN.

To the World's Congress Auxiliary of the World's Columbian Exposition:

The Committee on International Congress of Education, appointed at your suggestion by the National Educational Association of the United States, beg leave herewith to report that they have extended due invitations to the friends of education and the workers in its several fields, in all foreign countries, and in the several States and Territories of the United States. Sympathetic response has been made everywhere to these invitations, and the number of those expressing intention to be present is larger than we had reason to hope, when we consider the number of foreign delegates enrolled at world's congresses hitherto held; and this, too, without making any deduction for the much greater distances to be passed over to reach Chicago than to reach London, or Brussels, or Paris, or New York, from the centers of population.

In preparation for the discussions to take place this week, the committee has endeavored to select questions of international interest—questions that affect the management of schools in all countries, wherever they are. And the renewed and increasing interest in school education in all civilized countries at this time is an occasion for congratulation among all friends of human progress.

The central place of school education among the great regenerating movements of modern civilization is obvious when one looks over the list represented in the series of congresses which have held their sessions in this edifice since its opening in May, or are to follow between this and the middle of October. The common characteristic of movements that help forward civilization is that they increase self-help in the individual. There is no institution that does so much for increasing the power of self-help as the good school. It uses the time of youth—the time not yet of full value for productive industry, and yet most fruitful for growth in intellect and power of will. Education gives directive power—the power to combine things, and the power to combine men.

It is therefore with a strong show of reason that the teachers of our schools point to the exhibits in the vast aggregate of the World's Fair, and claim a large share in the development of the producing causes that have furnished the display of industry and skill and taste.

It is confidently hoped that the discussions of these congresses will help make clear to us not only the strong points of our school systems, but also the needs and defects which exist and prevent the highest achievement.

The fifteen departments of this congress, which hold their sessions in

the mornings of Wednesday, Thursday, and Friday of this week, represent, in equal proportions, the new and the old; one half devoted to understanding and explaining what is already established and in vogue, the other half devoted to showing the claims of what is new, and urging its adoption into the school system. The educational problems are all to be discussed, if wisely discussed, in the light of these two sides or tendencies. The committees on programmes have kept this in view.

In the department of higher education the distinction between the college and the university is brought prominently forward, and the relation of a course of study such as the old college furnished; namely, for discipline, and for giving the student a survey of the whole field of human learning—the relation of this to the specialization of the activities of the student in lines of original research. One party in higher education will contend that the old college course should be retained, and held to its purpose of giving unity and consistency to the knowledge of the student before he enters on his specialties, whether law, medicine, divinity, or some special branch of science or art; the other party will contend for a policy that discounts the so-called liberal education, and the boasted advantages of a prolonged study of the classical languages and pure mathematics, and contend for the earlier introduction of specialization.

The department congress of technology has prepared for itself a highly valuable series of discussions on the educational value of such branches as workshop practice, laboratory work in exact measurement, in chemistry, in electricity; what the student gets from mechanical and architectural drawing, and from pure and applied mathematics; what from natural science, and what from his training for an engineer. These studies in educational values have a direct bearing on the most fundamental question of higher education—the question whether the course of study in our colleges merits the high claims made for it as being one of a specially high educational value; as being, in fact, the course that enlightens the student, and gives him balance of mind and a judicial habit of thought.

To this great question in higher education, also, the congress of secondary education contributes its quota by setting in the foreground questions of the practical value of science as an educative study as compared with language, and, furthermore, the value of the modern languages as compared with Latin and Greek.

This question of the educational value of the classic and modern studies, of the languages *versus* the sciences and mathematics, is not a local one of interest only to our people, but a question more and more coming to the front in France and England, and even in Germany; and we are fortunate in having with us distinguished delegates from all those countries who have weighty words to say in its discussion.

A kindred question occupies a portion of the programme of the congress

of elementary education. What branches of science and what branches of industrial instruction should be introduced into the elementary schools, and how far may the old course of study in language, numbers, geography, and history be made to recede to give room for the new branches? The department congresses of industrial and manual instruction, together with the congresses on art instruction and music, emphasize this question in elementary education, and repeat in many new phases the demand for broadening the course of study in elementary schools.

The National Geographical Society has been invited to occupy the programme of Thursday in the elementary department, and valuable discussions are provided to bring out the needs and defects of the present methods of instruction, together with the desired remedies.

But the discussions of the third day in the elementary congress relate to the most important of all topics : that of citizenship and morals.

Those familiar with the work of the directors of popular education abroad, especially in England, France, and Germany, know the stress that is laid on morals and citizenship, and the interest that is shown in questions of religious education as an essential item on the programmes of the schools. There are two parties of earnest men and women, the one holding that the separation of church and state should be carried so far as to make the schools entirely secular, and the other holding that instruction in religion should be placed on the programme side by side with instruction in language and science.

Somewhat related to this question of ethical and civic instruction are most of the questions taken up in the kindergarten congress. The kindergarten attempts to provide a course of instruction that is half school and half family nurture, in order that the rigid discipline in obedience to law and order which characterized, and, I may say, still characterizes, the old-time primary school, may not have the effect of chilling the enthusiasm of the young child and arresting his development along lines of growth that tend to a completer individuality and a higher type of manhood and womanhood. In the discussions of the week there is a large space given to the very important differences between the epochs of childhood, say from four to six years, and the epoch of youth, say from seven to fourteen years. The transition of the mind from the so-called symbolic stage of childhood to the stage in which the child can readily learn the conventional methods of representing language and numbers is the topic which needs most illumination in the study of methods of the primary school. The kindergarten, moreover, as containing the beginnings of all that is to be unfolded in the later schools, takes up again the question of the educative value of hand occupations, so often discussed in other departments and found to be so attractive a topic in the educational conferences of all nations.

The congress on the professional training of teachers has as its most

important topic the difference between the normal school which prepares teachers for the work of the elementary schools, and the college or university which gives the degree of Doctor of Pedagogy. The course of study in the regular normal school, on the other hand, is defined by contrast with the ordinary high school or academy (secondary schools), and it is claimed that the normal school introduces comparative study—like the college, seeking to understand each branch in the light of the other branches of human learning—while secondary education usually teaches its branches as steps to higher studies, and not by a comparative method.

The college or university course in pedagogy, it is contended, should make its degree stand for original work of investigation in the lines of the literature and history of education as well as in lines of investigation into the growth or development of the child physically and mentally.

No more important topics than these are on the programme for the week as regards the improvement of our teachers.

But there are two department congresses auxiliary to this department of professional training, the one on rational psychology, which considers the transient and permanent characteristics of mind, seeks to discover the fundamental characteristics which contradistinguish mind from mere biological phenomena—the mind as knowing primitive truth and as pure self-activity. The other congress, that of experimental psychology, devotes all its discussions to questions of child-study in physical, emotional, intellectual, and volitional aspects.

The teacher, it is said, should understand psychology because he deals with the growth of the mind. It is quite recent that a great revival has begun in this country of the study of psychology.

The supervision of schools, which becomes every day more important as people come to live more and more in cities and villages, discusses the questions relating to the organization of schools, especially such as relate to the examination of teachers and the improvement of their work.

An interesting question, especially interesting in the presence of this great World's Exposition of the products of human industry, is that of the relation of technical skill and manual processes to the training of the æsthetic sense—the cultivation of the taste for the beautiful.

This question is brought out in many of its phases in the congress on art instruction, and still more of its phases are taken up in the congress on industrial and manual instruction.

The difference between the great systems of training—those of the Swedish Slöjd, the Russian school-shop, and the French system—will be better understood, it is believed, at the close of these discussions, and that this will lead to more profitable methods of preparation for our industries.

The department congresses of physical education, of educational publications, of vocal music, and of business education, have prepared pointed

questions relating to methods and modes of management, and their programmes will invite large audiences of interested teachers.

With this brief sketch of the points in the programme herewith presented, I beg leave to thank you, Mr. President of the World's Congress Auxiliary, and through you your aids and assistants in the local committees of education, for your uniform kindness and helpfulness in arranging the details of this congress. I thank you in behalf of the Committee of Arrangements, and in behalf of the National Educational Association.

ADDRESS BY HON. ALBERT G. LANE, PRESIDENT OF THE NATIONAL EDUCATIONAL ASSOCIATION, AND SUPERINTENDENT OF PUBLIC INSTRUCTION FOR THE CITY OF CHICAGO, PRESENTING DR. JAMES B. ANGELL, PRESIDENT OF THE UNIVERSITY OF MICHIGAN, AS PERMANENT CHAIRMAN OF THE GENERAL SESSIONS.

Fellow-Teachers: I extend to you greeting in behalf of the city of Chicago, and of the National Educational Association.

Chicago, which has been noted in the history of the world for its marvelous growth in population and material wealth, and which was the recipient of your loving charity when the great conflagration utterly destroyed all of the business section of the city, extending from Harrison Street on the south to Lincoln Park on the north, and between the lake and the river, greets you, the educational representatives of every State in this Union and every country on the Western Continent, with the official representatives of the great powers of Europe, the governments of Africa and Asia.

At the time of the great fire in 1871 Chicago had a population of about three hundred and fifty thousand. A city which had been laid waste needed to be rebuilt. Chicago appealed to you for money to aid her, and one hundred millions of dollars was placed at our disposal to rebuild in greater beauty and on more permanent foundations our business blocks, our public halls, our residences, and our schoolhouses. The sons and daughters of New England, of Old England, of the countries of Europe, and even Asia, heard of us, and came to increase our population and to contribute to our wealth. Twenty-one years have passed, and we have called you to visit us. We come to render an account of our stewardship. Behold a city with a population increased one million souls. In 1871 we were slightly known to the world as the young city of corn and pork. We come to you now with forty miles of magnificent boulevards, connecting six parks of nearly eighteen hundred acres of land; with our three public libraries which will attract the students of this continent, our three technical training-schools, our three universities, all endowed to the amount of twelve millions of dollars.

I must also present our grand public school system, with two hundred and twenty-five schoolhouses, thirty-five hundred teachers, and a spirit in the people and the youth which fire cannot destroy.

Chicago welcomes you all to the World's Exposition. Our material advancement has given us the opportunity to consider those higher attainments which mark the intellectual growth of a people.

After the magnificent architectural structures of the White City have been removed, the thoughts and ideas, the social, economic, and educational problems which have been discussed from these halls, will find realization in the lives of the people and will culminate in history.

The National Educational Association, which was organized in Philadelphia in 1857, has been a means of disseminating broader ideas of education. It has been an agent in shaping school legislation, and has brought together the men who are molding educational thought. During recent years the Association has commanded the attention of the whole country through the great conventions which have been held in different sections. Six years ago over ten thousand teachers gathered in the old Exposition Building, which stood on this spot. To-day it affords me great pleasure to extend greeting to the foreign representatives of education.

In behalf of the National Educational Association of the United States, I bid you all—Welcome!

You have come with the material exhibits of your countries. You have also come to take into consideration all of those higher and greater departments of human effort which relate to social conditions and to the realm of men and minds rather than to things and matter.

Of the many congresses that have already convened in this Memorial Art Palace of the Art Institute, and which may convene during the coming months, there is none that can surpass in its far-reaching effects this Congress of the Educators of the Youth of the World.

There was a time when men stood unable to cope with the wind and wave, the light and heat and all the wondrous forces of nature. Once they bowed and trembled before them; now they face them and say: Be still, be subdued!—and the winds and the waves are brought to do man's bidding and to serve his purposes. The conquest of such forces leads us to think that the words and acts of the Great Teacher are to be reproduced. He said: "Believe, for all things are possible."

Agitation, unrest, social convulsions, conflict between capital and labor, the struggle for self-government, characterize the life and history of the nations of the earth. The irrepressible conflict is the struggle of mankind against all opposing forces to attain to that which is highest and best.

The stability of this country, which is a "government of the people, for the people, and by the people," rests upon popular education; yea, pop-

ular education is essential to the perpetuity and well-being of any people. This principle is recognized by all the leading nations of the world. The magnificent educational exhibits at Jackson Park, from the different countries of the world, indicate the struggle of the people toward a higher knowledge.

The programmes of the various departments present to you the great questions relating to all phases of education. Important questions upon which there is a difference of public opinion are presented for your consideration.

There is a wide difference of opinion as to the limit of public instruction for the masses. In this northwest territory, of which Chicago is the great center and metropolis, by the Ordinance of 1787 and subsequent acts of Congress, lands have been devoted to educational purposes, including elementary, secondary, and higher education; and in the States of Indiana, Michigan, Illinois, Wisconsin, Minnesota, Iowa, and other Western States, provision has been made by which any child who may choose to do so may receive instruction at public cost from the primary school to the university.

It seems fitting that the representatives of the universities, which have done so much for the world, and from whose institutions have come the educational thinkers, should have the most prominent and active place in this body; and it is with great pleasure that I present to this convention a man who stands at the head of the greatest university in the world sustained by a public tax, voluntarily imposed by its citizens, to be the president of this International Congress of Education.

By direction of the Committee on Programme, and the Executive Committee of the National Educational Association, I take pleasure in presenting James B. Angell, President of the University of the State of Michigan, as president of this congress.

REMARKS BY PRESIDENT ANGELL ON TAKING THE CHAIR.

Mr. President, Ladies and Gentlemen: I desire to express my thanks to the gentlemen for the high honor they have bestowed upon me by calling me to this honored position. I am sure your coöperation will make the duties very simple and very easy and very agreeable. I assure you I will not forget that the duty of a presiding officer is not to make speeches, but to hear them. In an association like this the president has the simple duty of asking others to speak, and also the unpleasant duty of asking them not to speak too long. The committee informed me that it is expected a speaker will not exceed the time of fifteen minutes.

I am sure I cannot take my seat, with propriety, without expressing your gratitude to our distinguished friend Mr. Bonney, who has labored

so long and so assiduously in preparing the way for these congresses ; and also to his very industrious coadjutors, both gentlemen and ladies, of whose toil it has been my fortune perhaps to know something more than many of you can know. I assure you that you are more indebted to them than you perhaps can fully appreciate at this time, for the very thoughtful and careful provision they have made for your comfort, for your entertainment, and for your instruction. I am sure you will excuse me, at this time, from indulging in further remarks.

SECOND GENERAL SESSION.

TUESDAY, JULY 25TH, 8 O'CLOCK P.M.

ADDRESS.

BY DR. JAMES B. ANGELL, PERMANENT CHAIRMAN.

I THINK you will all agree with me that the work of these educational congresses underlies, in some sense, the work of all the other congresses which have been or which may be held at this time. Perhaps I might better say that the work of this congress overarches, enfolds, and encompasses the work of all the other congresses, as the sky encompasses and enfolds the earth; for all art, and all sciences—what hope of progress have these, what hope of perpetuity have they, except as the moral and intellectual discipline which we are engaged in cultivating is preserved?

As we walk through the avenues of the "White City," and stand fascinated and enchanted with the splendid architecture upon the right hand and upon the left, and behold the marvelous collection of the works of industry and of art from all parts of the civilized and from many parts of the uncivilized world, think you there is not one of us who has not at times felt the inexpressible pathos of the thought which has brought tears to so many eyes—the thought that in four short months all this architecture, and all this marvelous collection of all the treasures of industry and of art, shall have vanished forever, like the unsubstantial fabric of a vision, leaving not a rack behind? But the intelligence which has formed them, the genius which has fashioned them, the great ideas which are incorporated in them—these abide and shall abide forever and forever; and it is to these that you and I and every teacher address our work day by day. We work in that which is eternal and which shall never pass away. Therefore it is, I think, that the interest in education is so abiding, is so widespread, is so universal to-day in every part of the civilized globe. Therefore it is that to-day our distinguished friends come to us, having made the dreary voyage across the wide waste of seas, and having made the journey across half the continent, to speak to us, in sympathy and in love, of those things which are dear to us and dear to them. We are glad for their presence here to-night; we desire to thank them for their kindness in coming to us. The names and works of some of them have long been known to us, and we give them thanks, and we give God

thanks that now their faces and their voices are to be familiar to us, to give us an inspiration, here and now, which shall be with us as a joyous memory and a help for evermore.

Never before was interest in educational things so widespread within the borders of our own land. The last two decades have been creative decades in the work of education. Even in the South, which so long lagged behind the North and the West, what a change there has been since the war ! Out of the very depths of a misery and a poverty which we in the North cannot begin to understand, they too have taken up these great ideas of public education, and have taxed themselves, with a generosity which we cannot but admire, for the education both of the white and the black. (Applause.)

It was not long since that I had a conversation with a gentleman who has done more than almost any other for the promotion of education in the South ; a prolonged conversation, running until midnight, discussing the practical and difficult problems of the South with a pathos and an earnestness which I shall never forget. At the close of the hours I said to him : " What remedy have you for these terrible problems with which you are confronted there ? " He arose, with an expression of anguish, through which yet there was a ray of hope in his face, and with a fervor and an earnestness which I shall never forget, stamping his foot upon the floor, said : " It is very dark ; we can hardly see an arm's length before us ; but one thing I know : it must be eternally right to educate the negro, to educate and Christianize the negro." (Applause.)

In no subject has there been greater advancement made in the last two decades than in education : how it has been studied historically ; how it has been studied psychologically ; how it has been studied experimentally. Scientific education has been really created in the United States within the last thirty years. The changes in the college methods of education have been so great within thirty years as to be described by no other name, justly, except that of revolution. Now all the larger colleges and universities are bending their energy to the cultivation of graduate work, that we may achieve something that may truly be called university work in our larger and stronger institutions. And now I hope, as we have come here, we shall get many results from this meeting.

Never was there a programme, I believe, prepared with such care and with such promise as that into which our distinguished friend, Dr. Harris, has thrown his genius and his labor. (Applause.) Where, if ever, has there been such an assemblage of men and women distinguished by experience and study, to instruct us in the discussion of the subjects of that programme ? And I hope that among all the other results that we shall gain we shall gain this one, viz. : to feel the common consciousness of unity among all the grades and ranks of teachers from the highest to the lowest. Let us feel that our work is one work. We have wrought too much

in this country in sections, and at cross purposes, and with a lack of common consciousness and unity of aim.

The old-fashioned college, when I was a boy, was a sort of mythical institution that stood away in the clouds, remote from connection with the common schools, and even with the secondary schools; and the great mass of boys and girls had not a much more distinct idea of what went on within its walls than they have of what goes on in the mosque at Mecca to-night. Thank God that day of isolation of the college is passed. But we still have room to draw the ranks closer together all the way from the women in the kindergarten up to the very highest teacher in the university, and to have a consecutiveness of purpose and of aim and methods that shall bring us all to one result. For my own part, I never looked upon a woman teaching a primary class of twenty pupils, or a woman teaching a class of a like number in the kindergarten, without having a feeling akin to reverence for her in her work; and I have often said that it seems to me that many of them display more genius than I have ever been able to show in trying to manage a university. I have great respect for them, and I hope that we shall go out from these meetings with a stronger feeling than we have ever had before, that our work is one work from the beginning to the end. Therefore let us go back to our schoolhouses and to our classrooms with a strength and an inspiration of that mighty consciousness that we are, every one of us, a part of the great army whose thundering tread is shaking the land. Let us go feeling this power, and that we are working as a part of it. (Applause.)

I want even our humble teachers to have some higher appreciation of the honor and dignity that belongs to their work. As they come here and see the noble army of men and women who are engaged in it, I cannot but think that they may return to their work with some new pride in it. Let them reflect for a moment what is the dignity and grandeur of the material upon which they work. It is the soul, the mind of the child, infinitely nobler than the canvas on which Raphael painted the Madonna with a purity born in the heaven; purer and nobler than the whitest Italian marble from which Michael Angelo freed from its imprisonment the form of a Moses or of a David. The materials with which they work are not the mere pigments of the painter or the chisel of the sculptor; but the humblest "schoolmarm," the humblest kindergartner that is trying to teach her child some idea of geometrical forms, should remember that she is planting forever in his mind one of the great ideas by which God has builded the world. The humblest "schoolmarm" in the remotest log-house in northern Michigan or Wisconsin should remember that when she is teaching the A-B's to the stammering boy at her feet she is placing before him a ladder on which he may yet climb to the stars. That is the work in which you are engaged. Be proud of it! Never be ashamed of it! The rewards in money are small, but the

rewards in gratitude and love of your disciples are beyond the purchasing power of gold. The teacher's profession is a fountain of youth. I have seen many a teacher with gray hairs, and some with bald heads, but I never saw an old teacher yet. The smile and play of youth are ever on his face, because he is ever associated with the child and thinking the glad and happy thoughts of children.

We are apt to think that our work is too transitory and that to-morrow it is forgotten ; but please remember that the most enduring institutions which the human race has ever established on earth are the schools, colleges, and universities. Great royal houses have risen and fallen, but schools have survived them. Winchester and Eton, Oxford and Cambridge have survived how many a royal line in England ! The educational institutions of France have outlived how many a change of government, monarchical and republican ! The educational institutions of Europe have seen the map of that country made and remade how many times ! Everything in Europe has changed over and over again except the great schools, colleges, and universities ; but there they stand, and there they are destined to stand so long as civilization endures.

I hope that I am right as a prophet when I venture to predict that even though nothing else shall endure in these United States, beyond all the changes of political parties, beyond all the changes of society, beyond all the changes of other human affairs, the one thing that is to endure, in my judgment, is our great, free, generous system of public instruction. (Applause.) Parties may come and parties may go, but woe be to any party or any company or any society that with ruthless and profane hands dares to lay hold of that institution for its injury or destruction ! (Applause.)

And, my friends, we are proud to come here to-night, representative of many lands, representative of many States in this land, all fired with the same love of this one great theme. May all see the vision of blessings to come in the future from our toil ! Let us, I pray you, address ourselves to this work in this high and hopeful spirit to-night, believing that God's blessing will rest with it even to the end. (Applause.)

ADDRESS.

BY PRINCE SERGE WOLKONSKY, DELEGATE OF THE MINISTRY OF PUBLIC INSTRUCTION OF RUSSIA.

Ladies and Gentlemen : Two days ago I had the honor of being asked to welcome the present congress ; I have not had the time for preparing anything substantial that should, in some way, justify your kind applause. This is why I hope you will excuse me if I say but a very few words.

I wish to greet and to congratulate the International Educational Congress, but I will not address my congratulations to an apparently insignificant thing. I will not congratulate it upon the fact that it has the honor of being presided over by a man of such merits as Dr. Harris ; I will not congratulate it upon the brilliant names that constitute the long list of its members, nor upon the extensiveness of its programmes, or the variety of its subjects. I wish to congratulate it simply upon its name : "International, Educational." May these two words be written in fiery letters on the dark sky of this summer night, so as to shine for every one who will attend the sessions of this congress. Then he who will treat an educational question will remember that, even in the case when it has arisen from purely national considerations, it must have in its results a value from the "international" point of view; for education, if not aiming to inspire humanitarian feelings of international brotherhood, is but a dead letter. And he who will preach theories of "international" equality of men will remember that this equality should be obtained by way of "education"—that is, by way of arising, of building up ; by way of noble emulation in improving, in learning, in accepting and assimilating things that others have discovered ; in one word, international equality should be obtained by way of acquiring and not by way of restricting ; for tendencies of equality, if not inspired by motives of education, must bring humanity back to the animal equality of the beasts. And so the union of these two words, "international" and "educational"—may it be blessed ; may it resound in the hearts of all who will be present here ; may it inspire the words and acts of the congress with great ideas of universal impartiality ; may it loudly proclaim that every one of us belongs, *first*, to humanity, and, *secondly*, to one or another nation ; may it teach that there is more honor for any one of us in being *a man* than in being an American, or a Russian, or a German, or an Italian, or a Greek, or a Japanese, or whatever else it may be.

Now, if we ask ourselves what is the surest way of obtaining universal impartiality, we will answer that it consists in observing this rule : That a smaller thing should not hide a greater one ; that a partial question should not obstruct the view of its whole. In the physical world the perception of dimensions is relative ; a house, when we stand near it, appears greater than the mountain in the distance ; a small button, if held close to our eye, may obstruct the view of the sunshine and hide the whole universe ; but in the moral and intellectual domain we must not allow the same phenomena ; we must not allow that discussions between Methodism and Presbyterianism should obstruct Christianity. We should not suffer that interests of a town or of a community should grow bigger than interests of a State ; that rivalry between one nation and another should make us forget humanity.

These are the wishes I make in congratulating the congress upon the

opening of its sessions, and these are the reasons why I repeat once more : May the union of these two words be blessed—"International"—"Educational" !

ADDRESS.

BY B. BUISSON, DELEGATE OF THE MINISTER OF EDUCATION, OF
FRANCE.

Ladies and Gentlemen : In the absence of M. Compayré, I think it is fitting that a word of thanks to this congress and the authorities who have organized it should be said this evening. I regret the illness which prevents M. Compayré from being here, for he was anxious to express to you, in the name of the cause of public instruction of France, how much interest we take in the work of this congress, and how we delight to study your beautiful exposition in Jackson Park. You may be sure, ladies and gentlemen, that M. Compayré desires to extend to you our sympathy and appreciation of this beautiful work of yours. I also bring you here warm and hearty messages of sympathy from the great body of teachers of France. They are a modest and very hard-working, pains-taking body of men and women, devoted sons and daughters of our republican institutions ; which means that they are very great admirers of your grand Republic of the United States, or, I should rather say, of your forty-four republics in the New World. I may add that, in admiring your Republic, they cherish some hope that your example will help us to bring about the realization of that dream of our great national poet, Victor Hugo—I mean the federation of the United States of Europe in imitation of the United States of America.

Of course I am traveling away from the programme, and I must come back to the subject of the congress and to your beautiful exposition. It is too early yet for us to try to pass judgment on it, but we may already say very emphatically there never has been any exhibition of education so large, so beautiful, as the one which we may see at Jackson Park. I believe that never before have the organizers of an exposition given so much room to education, and treated it with so much honor and so much interest. I believe that this great increase of favor on the part of the organizers of expositions toward education brings a new and increased duty to the educators. We must answer this question in confidence which is shown to us by the general public. We must try to show that we are ready to make education more and more adapted to the wants of the times, to make it more and more practical ; to fit and equip the children for the struggle of life. We must try to make education the means of bringing the children and the men and women more and more together in federation and fraternity. But I

am mistaken if I come to preach enthusiasm to the city of Chicago. It is as if I were bringing coal to Newcastle, or water to the Michigan Lake. I know it is not enthusiasm which is lacking here, and especially in this beautiful assembly of progressive educators. I will close my remarks by saying that I feel a very great emotion that I have the honor and pleasure of seeing men whom for a long time I have been accustomed to admire. I was happy when I saw that pioneer in education whose works are standard works of education ; I mean the venerable Dr. Barnard. (Applause.) And then I saw my friend, General Eaton ; and I also had the great pleasure of seeing that leader in thought, the great philosopher, Dr. Harris. (Applause.) To these gentlemen, and to those who have the honor to preside and direct your beautiful, your grand educational association, we are accustomed to look in France as the luminaries in this land of liberty and progress, and regard it an honor and pleasure to meet them and have intercourse with them ; and this we think is ample compensation for the fatigue of our journey.

ADDRESS.

BY HON. G. W. ROSS, MINISTER OF EDUCATION, OF ONTARIO,
CANADA.

Ladies and Gentlemen : Two years ago I had the pleasure, on behalf of the Province of Ontario, as a Canadian, to take part in the proceedings of the Educational Association of America at its session held in the city of Toronto. To-day, as a Canadian, I am even more pleased, if that were possible, to take part in this international congress of greater dimensions, representing not simply the two Anglo-Saxon races of this continent, and the only races that have any position in shaping the affairs of this continent—but in this congress, representing all the national elements which go to make up the civilization of the nineteenth century.

As a Canadian I am glad to know that I am to receive instruction here from those who have organized that wondrous system in Germany, so much appreciated for her educational institutions among the nations of the world. I am glad to know that Russia is doing her duty in promoting the general education of the masses ; that France, in her anxiety to establish republicanism, does not forget that the foundation of all democracy is the education of the people. (Applause.) I am glad that even here, in this great city, in this nineteenth century, there has been done so much to bring together the nations of the world, and in keeping before us the thought that there is a community of relationship, a community of interest in educational matters, just as potent, just as useful in advancing our civilization and in shaping our international life—just as

important as bringing together the commercial products of the nations of the world and exhibiting them. From all of this we can learn that in educating the people of all nationalities we are bringing about that happy time when our swords shall be beaten into plowshares.

We have in the province which I have the honor to represent about nine thousand teachers, and about half a million school children in a population say twice the size of the city of Chicago. We are not ambitious to excel this great city in point of population, but we are anxious to excel it, if possible, in educational matters. The first feature of our system is that we are educationally a unit, from the kindergarten to the university. The Department of Education determines what shall be the course in the kindergarten, what shall be the course of study in the elementary schools, and what shall be the course in the public high-schools, and, practically, what shall be the course in the provincial university. The child who ripens in the kindergarten goes to the elementary school, and from that there is a uniform examination held all over the province to determine when that child is fit to enter the high-school, without which examination he cannot enter it. There the department determines when he is fit to enter the university, and, except in a limited degree, without that authority he is not admitted into the university. We believe that this system is a saving of time, money, and educational force.

We separated, a few years ago, the professional from the non-professional training-school for teachers. Formerly our normal schools did both. Latterly the training of our teachers has been relegated to our high-schools with very satisfactory results. We believe that has added to the efficiency of the high-schools, to their usefulness, to their importance. We believe that the liberal training of the teachers has not suffered in the least because that work has been relegated to the high-schools, because all our high principals are graduates of a university. We hold in check their training, and having that in hand we are not afraid to trust the non-professional training of our teachers. Besides, the professional training of our teachers begins with the kindergarten; that is a two years' course. No teacher can teach in a kindergarten without that training; therefore the kindergarten system stands side by side with the public schools and the university. (Applause.)

In our elementary schools we have two courses of training. Firstly, we have in the Province fifty-eight of what we call model schools, where teachers for four months receive instruction in methods. From there the teacher is sent on probation for a period of three years, under the control and observation of our inspectors, who are supposed to assist the young teacher in perfecting himself for the important duties of his profession. When such teachers have taught one year, if the work is approved by the inspector, the teacher is admitted to the provincial normal school, where he receives additional instruction, such as is given in your own normal

school and the German normal schools which I had the pleasure of visiting last year. Also, after six months, if his course of instruction is satisfactory, or if he passes an examination required by the department, he is authorized to teach. That certificate supplies what you would call our second-grade teachers ; but we do not stop there. These teachers, together with a limited number of higher grade still, cover the whole field of elementary work.

Five years ago we had only what you here would call a normal college, and what we call a school of pedagogy, organized very much as yours, in some respects after the German method, where we gave instruction in psychology, which is the foundation of all true teaching. You will see, therefore, what the Province of Ontario has done in the great work of teaching ; and while we think we have reached high achievements, yet we believe we must develop the study and teaching of psychology—a professional qualification, advocated by such men as M. Compayré and by Dr. Harris, and the eminent educators on this continent and Europe. If we have not reached our ideal it is not because we have not made the attempt, and we are proceeding, we trust, with some degree of speed in that direction.

There is just one other feature of our system : our schools are controlled, as I have said, in every department ; and we believe they should be controlled especially as to the kind of text-book they use. In Ontario we believe that the publisher is made for the schoolroom and not the schoolroom for the publisher. We believe in the first place that a good text-book cannot be prepared except by a good teacher, and regard no other text-book as suitable for our schools except such as are prepared by the most accomplished teachers in the Province. We have no confidence in bookmakers *per se* ; but a man who has taught a subject, and taught it well, who has the literary standing necessary, will, in nine cases out of ten, prepare text-books which are better than those prepared by some stranger to the work. Your text-books in this country are in harmony with your history and your institutions, and so we say that our text-books shall reflect Canadian sentiment, a sentiment which I trust will ever be synonymous with liberty and progress. Then we say our text-books shall be controlled, as to their publication, by the department, so that frequent changes, embarrassing and expensive changes, cannot take place, and that the price cannot be fixed higher than the educational department shall think proper. And no text-book can be put upon the market unless it is accepted as to its binding and typography by the educational department. No text-book can be used in the Province of Ontario unless it is approved as to its matter, its method, and all that goes to make up a text-book. All this is to the advantage of our public schools in the way of regulating the price, the quality of the text-book, and promoting the efficiency of the school. You may say that system would not suit you ; but it is not

designed to suit anybody but ourselves, and it does suit us admirably; it has met the approval of our whole people. It is so managed in the Province of Ontario that the average cost of text-books per unit of the school population is but thirty-eight cents, and in that respect we believe we save money to our people, we promote the efficiency of our schools, and we believe the system is useful to us.

Now these are but three features of our system, and that is all with which I propose to deal in my limited time. I shall simply conclude by saying that I trust this international gathering, which I suppose represents the progressive methods of all countries—that its deliberations will cement more strongly these international ties which bind humanity together in this war against ignorance and those baser elements which disturb international peace, which promote disunion and discord, the absence of which ties have set loose a feeling of hostility in times bygone. I trust that the sentiments which prevail here will be that the public school is the citadel of the intelligence of this age. We had universities long before we had public schools, but the watchword of the nineteenth century is, Educate the masses! We trust from this international congress will go forth a cry louder and stronger than was ever heard before: Go, educate the masses, educate these people who are so soon to control the destinies of the nation; and educate the teachers so that they shall rise to a higher plane, that when they enter upon their varied duties they shall feel that the highest duty of the teacher is not simply to educate the child in the rudiments of the English, French, and German education, but to educate him in the duties of citizenship, in those higher qualities of head and character and heart, and thus to fit him for the citizenship which some day he must discharge, fit him for taking his place in the nation, where he may discharge those duties in such a way as to make that nation progressive, and make it powerful in the direction in which a civilized nation should be powerful.

THE RELATION BETWEEN EDUCATIONAL METHODS AND EDUCATIONAL ENDS.

BY RT. REV. JOHN J. KEANE, RECTOR OF THE CATHOLIC UNIVERSITY
OF AMERICA, WASHINGTON, D. C.

Mr. President, Ladies and Gentlemen: During four days this congress has been employed in studying the best educational methods, and other congresses before this were engaged in the same occupation. We can all testify from our own experience that the study has been full of interest, full of instruction, full of importance and of profit; but all through these days there is one thought that has been running through my mind,

and which I would to-night like to ask your attention to ; that is, the relation between educational methods and educational ends. I have asked myself repeatedly during the congress, What do we mean by educational methods ?

Let us ask, What do we mean by method ? A method is a way to do a thing ; a method is a means to an end. It involves therefore two ideas, two things—a thing, and the way to do that thing ; an end, and the means to attain that end. Moreover, a method always presupposes the end. Methods are regulated by ends, not ends by methods ; and although in execution the means may precede the end, yet in thought the end precedes the method. Therefore it behooves us who are studying educational methods to ask what is the end of education in order that we may devise the best educational methods. What is the end of education ? In the army, private soldiers are not expected to know the end and plan of the campaign. It is their business really to do what is given to them. It belongs to the general and to a few trusted officers to know the plan, to know the end. The end is to be kept from the knowledge of the enemy. But in our work there is no enemy. In our work there is no reason why the end should be reserved to the few. In our army of educators, every educator ought to know the end of education, in order that the work that the educator is engaged in may be done more understandingly, may be done more reasonably, may be done more successfully.

What is, then, the end of education ? What is the end toward which all our methods should tend ? Socrates found long ago that it was much easier to ask questions than to have them answered, or even to answer them himself ; and if Socrates were to come into our midst this evening, to quiz us as he used to quiz the people in Athens, he probably would puzzle us a great deal and receive a great variety of answers. What would the answers probably be ? The most obvious and elementary answer that would be given to Socrates would be, that the end of education is to impart knowledge, to communicate information, to see that information is acquired by the young, either from instruction of the people, or from books which are studied under the teacher's care. We know that this imparting of knowledge makes up the work of most of the teachers, and it would not at all be singular if some should suppose that that was the end and the all of education. With that end in view, what would be the method of education ? The best educational methods would aim, first, at improving memory ; secondly, at calling out from the great multitude of facts those which are typical and generic ; thirdly, seeing that these typical and generic facts are learned by students, and then in trying to devise systems by which what has been learned should be retained and not forgotten. That would be the end of that method. Now, is this the end ? In our experience we doubtless have sometimes met men who are living encyclopedias of natural information, and yet who have indifferent powers

for the practical application of it. But our acquaintance with such men suffices to convince us that that is not the ideal of humanity, and that the production of such results is not the end and aim of education. In a practical world like ours we must look for something more practical.

Very well, the next one in answer to Socrates would say, let us be practical, that the end of education is to prepare the young for their part in the struggle of life, or, to speak plainly, to prepare them to make a living, to prepare them to take their place in the great economical and industrial life of the world. With that end of education in view, what would be the method of education? It would be to see that the young were as well versed as possible in the three R's; to see that to this was added some manual training; and all this with a view of preparing them for their place in the ranks of labor. And then, if their qualities and their positions, their starting in life, gives reason to believe that they can take their places in the ranks of capital, they must, in addition, be trained in those branches of science upon which the development of their line of industry depends. Now, our world is so practical, and human life so largely taken up in the struggle for a living, that it is no wonder that many should be inclined to think this is the end and the object of education. And there have been economic writers who have pictured the world as a great industrial machine, and human life as a great economic endeavor. But all over the world to-day we hear the warning that this is not enough, that there is more than that in human life. We hear the warnings in whispers of wisdom, and we hear the warnings in cries of anger; and we cannot afford to ignore them. There is more than that in life; and if education is to make the world what it ought to be, it must be wider, it must aim at more than that.

Very well, then, our next answer in reply to Socrates would be, let us include more in the end and aim of education. Let us insist that education also aims at making a man of understanding, making a man fit for all his rights, all his duties and obligations as a social being. Then the method of education will be, in addition to what has just been mentioned, to give a man a sufficient acquaintance with the political and social knowledge that will fit him for his place in the world as a citizen; to make him also sufficiently acquainted with those matters of physiology and hygiene which will correct many of the evils under which the masses suffer; and, in fine, to cultivate a public opinion and a public spirit which will gradually bring about better social and civil conditions. All this is unquestionably good; all this is unquestionably necessary.

We have lately had a study of all the endeavors in that direction in one of the most charming essays that I have ever read, the essay on the history of political economy by Professor Ingraham, an article on political economy in the *Encyclopædia Britannica*. Professor Ingraham, after studying the economic conditions, the social conditions of the world, and

all the tendencies that are now at work for their improvement, concludes that over and above mere learning, over and above political and social training, over and above civil improvements, there is needed in the life of humanity, and for the solution of humanity's problem, an altruistic philosophy of divine authority, and of divine persuasiveness, which will guarantee among men the observance of truth, and of justice, and of charity in human relationship. And he concludes that the solution of all the problems of the world, which the world's education has tried to solve, must in the last chiefly depend upon the spiritual powers in the world. And, says he, the aim of the political economist ought therefore to be to establish universal authority, the word and power of the old spiritual influences now existing; or to make some spirit influence to take their place. Fortunately, the whole task may well be dispensed with. But the solution arrived at by Professor Ingraham, after the most philosophical study of the history of economics that I have ever read, is the one I have just mentioned to you. Some, however, will find fault with that.

Another will answer old Socrates and say : No, it is not there that the solution is to be found ; the solution of human ills is to be found in the advance of science ; and in proportion as we bring human life into harmony with the great scheme of evolution, peace and prosperity will reign in the world. And therefore the method of education is to train the young to study nature ; train them to be discoverers ; train them to be investigators ; train them to acquire facts and classify them, in order to bring human life into harmony with the great cosmic development. Fortunately, we have within the last few weeks had a verdict passed upon this doctrine by a man who, perhaps more than any other man in the world, is competent to pass judgment upon it—Mr. Huxley, in a lecture which he delivered at Oxford last May, on the application of the cosmic development to the realities of human life ; and he acknowledged that the scientific development, or cosmic development, proved a dead failure when it came to be a standard for the practical affairs of human life. For, said he, in the cosmic evolution the two great elements are the struggle for existence, and the survival of the fittest. But now, said he, let me impress upon you that the survival of the fittest does not always mean the survival of the best. On the contrary, said he, the survival of the fittest often means the survival of the meanest and the lowest. For instance, said he, “if by some cosmic change the temperature of our globe could be lowered a certain number of degrees, the survival of the fittest would mean there would remain alive only the lowest forms of vegetable and animal life that could subsist in such a climate. If, on the contrary, by some cosmic development the atmosphere of our globe could be raised in temperature, there would be found only the gigantic development of the tropical region. Therefore,” said he, “the survival of the fittest does not mean the survival of the best ; generally quite the contrary. Conse-

quently," said he, "the struggle for existence leaves no room for the ethical element. It has no place to come in." Then he holds up his hands in despair and says: "Where, then, are we to find provision for the best, and for the ethical?" And he concludes with the suggestion we have been accustomed to hear from the heart of poor John Stuart Mill, that since human life cannot get along without the best, and without the ethical, then we must hope that humanity may be able to find it somewhere else than in the cosmic evolution. Then we have got to look for it somewhere else.

In the winter before last a number of gentlemen assembled in Philadelphia to look for the solution of human ills, under the auspices of one of the societies of learning of that city. Three eminent men studied at this question: How can the ethical element, which makes for the best, be introduced into our system of education? these three gentlemen, one of them the president of a distinguished college; the second, a professor of one of our leading universities; the third, a superintendent of schools in one of our principal cities. The college president, in order to find a place for ethics in man and in education, studied man as a psychological being, and he tried to find the ethical in psychological tendencies, psychological needs, psychological development. He concluded that there was in each individual a subjective tendency toward the ethical that needed to be regulated by an external rule, coming from the excellence of another body, or some psychological machine. He left him in this rather nebulous condition. The second speaker, the university professor, tried to clear the clouds a little, and he brought it down to this. He said: "I do not believe one bit in that subjective or internal tendency toward the ethical"; therefore, he would make the ethics of the world depend entirely upon an external rule. Then the superintendent of the public school, recognizing that the thing was left in such a strange psychological muddle that he would not know how to tell this to the schools of the State, asked this question, and the multitude listened: "Cannot I teach ethics to the young men under my charge, and bring in a notion of God as the motive for their aiming at what is good and what is the best?" Said he: "I acknowledge, after the discussion of this evening, that I shall not try to answer the question; I must leave it to others to decide." If Professor Ingraham were there he would say: "Look here, gentlemen, why are you making such a muddle out of very plain things? Why are you trying to invent a system of ethics, when there is a system of ethics in the world that was here before you were born, and that will be here when you are dead, which meets all the world's requirements?"

And if old Socrates were among them, he would say: "Look here, gentlemen, why are you making fogs to befog the public mind? Do you not recognize, as I said and declared to the people of my age, who were also mixed up in this notion of cosmic development—did I not demon-

strate that you must mount to philosophy, and from philosophy you must go to religion?" And that demonstration which Socrates wrote out in his day, and for the truth of which he laid down his life, is just as true and just as necessary in our day as it was in the days when Socrates taught it to the Athenians.

Friends, there are three great books that education must teach mankind to read—the book of Nature, the book of Humanity, and the book of Divinity; the book of Science, the book of Philosophy, the book of Religion. You cannot separate them. Humanity demands them all. Human life cannot get along with them if they are divorced one from another. The end of education is to teach humanity to read these three books. And therefore, as education goes on from the elementary to the superior, leading the young from an elementary acquaintance with these three great books, it will lead them to a more perfect knowledge of all the three. But in order that human life may be symmetrical, in order that it may be able to stand solidly, development in the three is essential. The end and aim of education cannot exclude or ignore any one of the three. Human life, in order to stand solidly, must not be one-sided, must not be lop-sided. A life that is one-sided, lop-sided intellectually, must tumble over some precipice eventually. But in order that it may not be one-sided, and that it may not be lop-sided, that it may stand firmly, it must stand upon this tripod—the tripod, the emblem of solidity: the natural, the human, and the divine. If old Socrates were here to-night, this is what he would insist upon. May the spirit of Socrates be among us all the time and keep us in mind of this great truth, of what is the real aim of education, of what are the methods of education we should always aim to attain; and not only keep us in mind of it, but keep us ever faithful to it.

LEGAL EDUCATION IN THE UNITED STATES.

BY PROFESSOR L. DIMSCHA, OF ST. PETERSBURG UNIVERSITY, AND DELEGATE OF THE MINISTRY OF PUBLIC INSTRUCTION OF RUSSIA.

Mr. President, Ladies and Gentlemen: If, notwithstanding my limited knowledge of the English language, I take the liberty of requesting your kind attention to-night, I do it because of the interest and respect I feel for the educational system of your country. In gradually getting acquainted with general and special education in the United States I came across some peculiarities that characterize the higher education in the New World. These peculiarities involuntarily conveyed to my mind a comparison between European and American ways of resolving important

educational problems. Amongst these the question of legal education occupies a first rank—the learning by the younger generation of that science which Romans used to call “the notion of human and divine, the knowledge of what is just and unjust”; the science which was regarded by legists of all centuries as the summit of wisdom; the science which teaches us the complicated laws of human coexistence, which shows us the limits of the permitted and the prohibited. A rational and practical teaching of this science interests at present the whole civilized world, especially the pedagogues of all countries who direct the sacred task of educating the younger generation for obtaining ideal and material wealth.

But if legal education is of a great value for all civilized countries, it has a quite special importance for the United States, where the Federal Constitution accords to the legal power a more prominent place than in any other country; where the most eminent statesmen, the majority of the Congress, are lawyers by profession. Thus life itself points out the necessity of raising, as far as possible, the cause of legal instruction, especially for United States law schools. This necessity is felt in Europe, where the best universities endeavor to give to the young men who devote themselves to study the juridical and social sciences the possibility of learning these matters in their whole.

The second half of this century abounds in literature tending to vivify the juridical sciences, since the study of the conditions of social and political life has raised the significance and conception of right up to its very highest place; since the legal science is not any more a collection of terms and codes; since it received an independent position as a science that develops itself historically and parallel with practical life. From this time the task of the legist, judge, and lawyer become different: they have not any more to learn the juridical terms and their appliance; they have to study the historical development of their country's codification in its relation to the laws of other countries, and this brings the necessity of the study of legal philosophy and encyclopedia that enables them to descend from general abstract legal principles to single juridical cases.

Since the time of Auguste Comte and Ihering the legal science ceased to be a dead knowledge, and it goes hand in hand with life. Modern life in its various functions becomes more complicated every day. The legislative power of social and political associations has to follow the necessities of the present time, while the legal science is called to regulate these activities of life, to encourage, criticise, and improve them. Thus, in the contemporary state, we may observe a complete coöperation of life and science of law. The exigencies of the first are formulated by the representatives of the latter, and are executed by the complex mechanism of administrative and juridical powers.

This is why a great attention is drawn everywhere to the question of

higher juridical education. In Europe, legislative committees and faculties of universities watch with attentiveness its progress, its systems, and the consecutiveness of different teaching methods. In the United States numerous law schools and universities attend separately to this work. A new committee on legal education has been founded with the aim of promoting this question.

Europe has passed through many different periods in the history of juridical education. There were times of narrow, literal comprehension of law and of mechanical learning of its terms. Then came a passive worship of Roman law, that had for its result a complete atrophy of the independence and originality in investigating and studying of native law. Then at last the scientific men and pedagogues of Europe came, by way of experience, to logical and practical methods of law teaching that are now applied in the universities of Continental Europe.

The principal points of this matter are the following : Unity of educational system, consecutiveness of teaching law subjects, and the adoption of a minimum of academical years.

The first point secures a homogeneous law teaching in all universities of the same country ; all universities are controlled by one highest institution, a department or a ministry, which has the charge of directing them according to the latest acquisitions of science and life. The advantages of this system are, that the presidents and the whole educational body of universities have always present to their minds the exigencies of one common statute. This makes impossible the existence of that free will in programmes that gave such pernicious results in the teaching.

As to the consecutiveness in lecturing on juridical subjects, its necessity follows out the very nature of legal science, which is not an absolute or applied knowledge, but an abstract notion formed by history parallel to the vital exigencies of human coexistence. Legal science, more than any other, must be taught with strict consecutiveness in ascending from general conceptions to single cases. You cannot profitably lecture to a student on terms concerning acquisition of property, unless you give him previously a due knowledge of property as a legal institution. You cannot lecture on law without having given to the listener preliminary notions of the origin of law and its ethical bindings, and so on.

In virtue of these considerations, the instruction of law is taught in Russia, as in other European countries, with a system of scientific consecutiveness.

First of all, the history of philosophy and encyclopedia of right are laid out before the student. The first of these sciences gives to the listener a complete picture of the progressive historical evolution of human thought, in the formation of legal conceptions and the ethical foundation of its obligations. The encyclopedia of right makes the young student attentive to the general harmony and system of legal institutions, and compels him

to classify the juridical conceptions in diverse sections, according to their importance in life.

Next to that comes the history of Roman law and the history of the actual law of one's native country, in connection with the law history of all civilized nations. After having listened to the history of Roman law, the student must learn a dogmatical course of this law that was one time the prototype of all civil codes, and is now the most perfect example and written foundation of civil law in general. Then and only then can the student pass over to a conscious acquaintance with the general, civil, and commercial law of his country. The same order is observed in the study of public law. The student first learns the history of his own country's law, and only after that is he considered able to study its actual public law in the different branches of criminal, administrative, finance, ecclesiastical, and general state law.

International law, too, is taught according to the historical method: first, the history of treaties; secondly, the theory of international right. In the same way law proceedings, medical jurisprudence, etc. This enables the student to assimilate gradually, with full consciousness, the intricate propositions of various branches of law science. Under a similar system of teaching, legal conceptions form in the student's mind a harmonious construction from the solid foundations of law in general, through the different states of their historical development up to the special and perfect knowledge of contemporary law.

The last exigency of European universities is that the course should last at least four years. This is a consequence of the above explained conditions. In fact, a complete historical and theoretical study of law cannot be made in less than eight half-years; if we consider that, except other optional lectures are held in interesting and important branches of legal science, the above mentioned exigency of the university statute will appear even more comprehensive. Besides that, these demands are justified by another consideration. The time spent by a young man in the university must never be deemed lost, and the later he leaves it the more intellectual force will he have for beginning his struggles for life. It is one acknowledged fact, founded on experience, that all curtailing of higher education produces a general lowering of the intellectual level of the given generation. These are fundamental principles of legal education in Russia and in the universities of Continental Europe.

None of these conditions have found application either in the law schools or in the universities of the United States. There is no unity in the system of legal education; every university fixes its own programmes. There is no central organ to regulate the general exigencies of instruction. We have under our eyes fifty-six juridical programmes of different law schools and universities. And there are not two of them similar. Every institution establishes its own exigencies.

We must say the same as to the consecutiveness of teaching. Most of these faculties begin right off with a dogmatic course of common law without teaching beforehand either general, theoretical, or any explanatory historical notions. Every American university is actuated as to that by its own considerations. So the law school of the University of Alabama begins the study of legal science with a course of international and constitutional law. The Northwestern University Law School begins its course with practice in cases of law. The Hasting College of the Law, University of California, begins with persons and persons' rights, thus starting from a part of civil law without having given a general and theoretical course of this law. We could emphasize the number of examples proving the absence of any general system of teaching.

Finally, as to the duration of university courses, the American law schools essentially differ from the European ones. In the sixty-four universities of the United States the duration of the course is the following: In seven of them it is of one year; in forty others it is two years, with permission in some of them of finishing the same course in the space of one year; and only twenty-seven universities consider it necessary to accord to the study of jurisprudence a time of three years.

From this short comparison you may see, ladies and gentlemen, what an essential difference characterizes the legal education in the United States and in Europe; although scientific men and pedagogues of both continents pursue the same aim, tending to obtain the best results in this domain.

Which is the best of the two ways? I will not judge. I am too little acquainted with the results that you obtain. I am afraid of generalizing too promptly.

But if the aim we pursue is one, the means of obtaining it must be one. The civilized nations began that period of their development in which educational ideas appear in many ways as similar, and they must obtain them by way of honorable contention. To favor this contention, to acquaint one another with obtained results—this is one of the great problems of this International Congress that has assembled on American soil the scientific men and eminent pedagogues of all countries.

May this intercourse of thought, and the great ideas proclaimed from this chair by so many men of science and progress, enrich the world and your country with new benefits in the way of educating younger generations.

THE PRESENT SITUATION OF EDUCATION IN FRANCE.

BY M. GABRIEL COMPAYRÉ, PRESIDENT OF THE FRENCH COMMISSION
ON EDUCATION.

Mr. President, Ladies and Gentlemen: As the official representative of the Ministry of Public Instruction in France, in the quality of President of the French Delegation to the World's Congresses and Columbian Exposition, I feel proud and honored to say a few words of thanks before this eminent and numerous assembly. It has afforded us a very great pleasure to take part in the highly interesting proceedings of these congresses, where all pedagogical matters have been so thoroughly and competently discussed.

The government of the French Republic has clearly shown the great interest it takes in these international gatherings in sending over to attend them as many as eight delegates, five of whom are still present here to-night at this last session. These eight were originally : MM. Steeg, Director of the Pedagogical Museum, Paris ; H. F. Haller, Professor of Chemistry at the Nancy Institute and University ; B. Buisson, Director of the Normal School in Tunis ; Mlle. M. Dugard, Professor of Psychology at the Lycée Molière, Paris ; MM. A. Chevrillon, Professor at the University of Lille ; E. Martin, Director of a High School (France) ; G. Lerrurier, Director of an Elementary School (Havre) ; and myself, who has been honored with the title of President.

In the numerous discussions in which these different members had an opportunity of presenting their views, you may have appreciated their degree of competency. They tried to give you a clear idea of the present situation of education in all its branches throughout France. Much has been done during the last twenty years toward improving or reorganizing our whole school system. Nevertheless, France does not pretend to take in pedagogical matters the first rank among all nations—the first rank is in the distant ideal ; but she wishes everybody to acknowledge her strenuous efforts, and she is firmly convinced that she is abreast with every other country.

In elementary instruction we have just fulfilled the most sanguine expectations of our forefathers of the grand revolution of 1893, as your veteran educator, Dr. Barnard, told us this morning, in his hearty speech that nearly moved us to tears. We made instruction compulsory, and we made it free, also, to every one, just as your ancestors had done in America as far back as the seventeenth century. At the same time we established in every district special schools for higher primary and manual training education.

In secondary instruction we uphold firmly the study of Greek and Latin, without which it seems to us that humanity would suffer a *diminutio capitis*; but at the same time we have organized a modern instruction especially based upon the study of sciences, literature, and foreign languages, as well for girls as for boys.

For higher education we have built magnificently a new Sorbonne, in which has been introduced at the same time a new spirit of greater liberty and scientific researches.

Our provincial universities also have been reorganized and highly improved. But it is not in our universities only that we find higher intellectual life. Let us take as an example three well-known names in these last few years—Chevreul, Claude Bernard, and Pasteur.

The first, Chevreul, was a professor at the Natural History Museum in Paris. The second, Claude Bernard, accomplished his great works in the Collège de France laboratories. The third, Pasteur, whom a highly authorized American voice recently termed in this building a “benefactor of humanity,” made all his important discoveries in the laboratory of the École Normale of the rue d’Ulm.

But so much for us. We did not come here to boast of what good there may be in our own institutions, but to study yours carefully and take back with us what we most admire in them.

We heartily offer you our thanks for your hearty welcome; we firmly intend not to sever the ties of friendship we have formed with so many of you, and we assign to you a “rendezvous” in our next international exhibition at Paris in 1900.

A PERFECT PHYSICAL EDUCATION IS INDISPENSABLE IN ORDER TO PRODUCE AN IDEAL EDUCATION.

BY DR. L. M. TÖRNGREN, DIRECTOR OF ROYAL CENTRAL GYMNAS-
TIC INSTITUTE, STOCKHOLM.

[ABSTRACT.]

“Mens sana in corpore sano.”

ALL civilized countries at the present time endeavor to awaken a desire for physical perfection. By this is understood a development of power of health that will give a good foundation to the mental development.

If we wish to bring the human plant to the highest possible perfection, we must take its totality into consideration—we must develop the whole being.

It would be a great loss if education were to be so arranged that intelligence and moral power should not be diffused through coming generations.

If we examine circumstances about us it will easily be found that where there is a defect in the wanted harmony, discord is the consequence.

Health hangs upon organic life—the organs act and react, and must be made to do that in the best way, in order to obtain perfect health, which is the result of such an ideal development. Our means are many. For the sake of brevity I will call them good habits, intending now to insist only on a more effective physical development by the use of the body itself—its power represented by ability of movements.

The different movements act in different ways, and must be considered when exercises are used for developing the body. Such exercises have been called rational exercises, or gymnastics.

Gymnastics, put in use for educational purposes, must be rational.

Education or preparation for life should be made in the home. Parents and friends should be the educators.

Physical education is a necessity in the schools. Gymnastics should be given as much time and space as other school-work.

ADDRESS.

BY M. ERGRAFF KOVALEVSKY, DELEGATE OF THE RUSSIAN MINISTRY OF PUBLIC INSTRUCTION.

Ladies and Gentlemen: The great French writer, Victor Hugo, once uttered this beautiful sentence: "To instruct is to construct." Nothing is more true.

Pedagogues and all persons connected with public instruction will easily understand the grand truth conveyed in these words, so simple and yet so significant. The idea of universal and compulsory instruction was proclaimed in America for the first time in the year 1642, in the place where now is the State of Massachusetts. These two hundred and fifty years have not been lost. Thanks to the liberal subsidy of the Congress which granted a large amount of land, worth many millions of dollars to-day, and for private and liberal contributions, in money and labor, by means of which public instruction has now attained brilliant results in the United States. Every one will be convinced of this after having visited the splendid Columbian Exposition. This exposition is a great suggestive school for those who visit it; and at the same time, so to say, a universal

academy, in which they will find a variety of precious and interesting information. It is an inexhaustible source of practical knowledge, by which all can profit according to their inclination. Certainly it is beyond contradiction that there is little resemblance between this grand institution and the log-schools built in the seventeenth century; but if it had not been for these humble primary schools, for these secondary and professional schools, for these universities, could we have had the opportunity to assist at the show of all these treasures of science which are so intensely attractive? No. An illiterate man is a blind man, and with the blind there can be no progress.

Having visited the American schools and studied the marvels of the Columbian Exposition, we cannot sufficiently express our admiration for the valiant efforts of American pedagogues, these spiritual builders of modern progress in the United States.

Inspired by the sentiment of this admiration, and profoundly touched by the sympathetic and cordial welcome we strangers have met with in the United States, allow me to propose a toast in the name of Russia, for the prosperity of the American school and of all its representatives.

Allow me, therefore, to express in the name of all Russian pedagogues and my own, the feeling of the greatest sympathy and admiration for the great American nation, and especially for the progress of education in the United States.

JOSEPH PETER VARELA AND THE PROGRESS OF EDUCATION IN URUGUAY.

A PAPER SUBMITTED BY ALBERTO GOMEZ RUANO, COMMISSIONER IN CHARGE OF THE EDUCATIONAL EXHIBIT OF URUGUAY; READ BY MISS ANNA CONDIT, OF CHICAGO.

IN the history of the nations as well as in the history of man, sentiment has always been the life-giving breath of all great ideals, the generator of all noble actions, and the most honest and purest executor of justice and human gratitude. This will explain to you why I have come to you as far as from Uruguay to occupy your kind attention.

Uruguay keeps written upon the pages of her brilliant history, engraved on her stone and metal monuments, the name of an illustrious man, a name that lives in the hearts of all his countrymen, because its bearer sacrificed everything for public education. Uruguay owes to the country of Washington, to the native land of Horace Mann, the honor of having in her midst one more son worthy of her history, and it also owes to the United States her standing as one of the foremost countries in the march of public education and instruction.

In Montevideo, the capital of the Oriental Republic of Uruguay, on the 19th of March, 1845, there was born Joseph Peter Varela, who, from his great influence in the development and progress of education in his native country, became known as the "Uruguayan Horace Mann." In 1867 he made a trip to the United States of America, where he met Hon. D. F. Sarmiento, Minister of the Argentine Republic to the United States. These two men visited the public schools of the United States, and derived great benefit for the cause of public education in their own countries.

In the year 1868 J. P. Varela returned to Montevideo an enthusiastic admirer of the United States, after having studied her political institutions, her administration, the freedom of her press, her natural wealth, her industrial power and energy.

Varela drew from all this the conviction that the cause of the prosperity and grandeur of the United States was—Primary Education. With much earnestness Varela appealed to the young people of his country to help him in arousing the citizens of Uruguay to give attention to a needed reformation in education. An early result of his appeals was the organization of "The Society of Friends of Popular Education." At that time there was hardly any literature or pedagogy in Uruguay; with rare exceptions, the school teachers were incompetent, and for all these things the "Society of Friends of Education" had to provide.

Justly it may be said here that J. P. Varela was the soul of this institution, for he was its president; he had to devise the programmes, had to arrange for the proper schoolbooks, and for the instruction of the teachers. He had to write the annual reports, and thus inaugurated a tireless propaganda to show the people that civil war and misery could only be avoided by founding public schools. In 1874 this enthusiastic and able promoter of public education prepared, in two volumes, "The Education of the People." The second volume of this work was a treatise on practical pedagogy. This work was published by the "Society of Friends of Education," which also published two other volumes, which Varela translated into Spanish: "The Manual of Object Lessons," by N. A. Calkins; and "The Manual of Methods," by H. Kiddle, T. F. Harrison, and N. A. Calkins.

Fortunately, and to the honor and welfare of Uruguay, J. P. Varela, on the 29th of March, 1876, was appointed Superintendent of Public Instruction, an office which at that time was without a salary. It required an iron will and a heart abounding with love for his country and education to accept this position in an epoch where all the schools were wanting in method, pedagogical applications, and the necessary information of the instructors, and even the spirit of the masses, which showed a marked indifference to everything meaning progress.

In August, 1877, the new law of public education was passed, and from

that time the office of "General Superintendency of Public Instruction" was created, and school inspectors were appointed. School administration and regulation replaced the former disorder; proper school plans were adopted, and the teachers had to pass an examination as to their capability. Schoolhouses, furniture, and materials were changed; school libraries were provided, and gymnastics introduced; an official school journal was published, and Varela edited an "Encyclopedia of Education," a work composed of reports, critical essays, and other scientific work for the use of school-teachers. Varela's task may be summed up thus: He changed the school system, changed the methods, reformed the schoolbooks, reduced the cost of instruction, doubled the number of public schools, created a higher standard for the school-teacher; and this transformation was rapid, sound, and national. And much as Varela was the soul of the Society of Friends of Education, just as much he was that of the Superintendency of Public Instruction. Varela was everything: legislator, examiner, chief of the office, and even copyist whenever his employés were tired out. His activity and love of work gave him strength to accomplish all these things. During his leisure hours J. P. Varela submitted to his government several reports of the work accomplished, amongst which the second distinguished itself; it covers the period from August 24, 1877, to December 31, 1878, and is a work considered to be a true monument of public instruction. His delicate health being undermined through excessive work, and the bitter moments he had to pass through in the exercise of his duties, he edited his last publications while prostrated on the sickbed, availing himself of the few moments free from physical pains.

PRESENT CONDITION OF THE PUBLIC SCHOOLS OF URUGUAY.

STATEMENTS MADE BY SEÑOR ALBERTO GOMEZ RUANO, COMMISSIONER OF EDUCATION, THROUGH HIS INTERPRETER.

THE Oriental Republic of Uruguay and South America brings with its national exhibit a carefully prepared statement of what its people have done for the boys and girls as well as in teacher training. They have had their Horace Mann as well as the Republic of the United States. Señor Joseph Peter Varela must certainly have been a reformer with the true principle of education at heart, for out of the movement set on foot by him as late as 1877, has come a school system so entirely on the line of the Froebelian method as to be perfectly amenable to all that is newest and best.

Nor has the knowledge of the multitude of problems which at present occupy the attention of the principal nations of the world been neglected; for the scholastic authorities have sent to Europe various commissioners to study the organization of normal schools, of classes for manual work, gymnastics, music, modeling, writing, etc.

With regard to the present position of school-teaching, though susceptible of improvement, it is decidedly satisfactory, if the state of anarchy in which the schools were left in 1876 be taken into account, as well as the vicissitudes the country has experienced, the scarcity of resources, and the many reforms that have been required to remove from the minds of the people old prejudices in favor of systems which, happily, to-day are no longer maintained by any one.

The methods generally adopted are either analytical or synthetical, according to the requirements of the subjects included in the school programme. The teaching thus acquires a character eminently educational in the lower classes, and active always, so that the child thinks and executes at the same time.

As regards procedure, form, and manner of teaching, they are such as are recommended by modern pedagogy, in which intuition and oral instruction take the first place.

Thus it results that the character of the teaching given in the public schools of Uruguay is educational, rational, appropriate, rigorously graded, and therefore progressive, complete, harmonious, lively, agreeable, and, above all, practical, so that said teaching is grounded upon solid bases.

Finally, as the public schools are eminently popular, both rich and poor alike attend them, without the least distinction of any kind being made. Thus, by the side of a child of the white race another may be seen of the African race, so that, in infancy, ideas of equality and democracy are inculcated.

Since the promulgation of the Law of General Education, numerous reforms have been carried out: at one time effecting improvements in the condition of the schoolhouses; at another, drawing up rules to enforce better service in scholastic administration. Besides this, the school programmes have been modified, three pedagogic congresses have been celebrated, two normal schools have been founded—one for females and the other for males—in which establishments about a hundred young people are in training to become teachers.

Very important also has been the establishing of a deaf mute school, with the newest methods in the training of speech.

The exhibit in the Agricultural Building at the World's Fair is a complete statement in substance of the condition of the Uruguayan schools. Large cases of beautiful photographs show the development of the schoolhouses from kindergarten to the pedagogical museum, with everything in

working order. Although the kindergarten has been adopted but three years, as a part of their public school system, they are erecting special buildings, and have already begun the manufacturing of the materials at the expense of the government. The hand-work shown will bear careful criticism in the most part. A case of clay-modeling done by the children themselves, consisting of seventy pieces, carefully packed, and brought to the Columbian Exposition, proves the real appreciation they have of the newer methods. There are fifty studies in hand-work applied in some practical form. Also, numerous portfolios of weaving, paper-folding, cutting, and designing; studies in color, however, are limited entirely to inadequate color materials, in which considerable help is needed.

There are over seven hundred children in the kindergartens, which is a good percentage, when we realize that the entire Republic of Uruguay does not contain one-half as many inhabitants as the city of Chicago. The teachers for this special work were trained in Germany and Belgium, sent there by the government, and have now adapted the knowledge attained to their national conditions and the Spanish tongue, and are now training many of their native sisters in the beautiful work of the kindergarten.

The general training-schools are fast turning out well-equipped teachers, the great purpose being to reduce the number of children under individual instruction.

TRAINING OF TEACHERS IN HIGH-SCHOOLS IN SWEDEN.

BY DR. EDWARD OSTERBERG, OF SWEDEN.

THE teacher is the school. Whatever may be the size and the style of the school-building, the ornaments of the schoolroom, the excellence of the materials used for the instruction of the pupils, the teacher is the soul; he gives life to the surroundings, and he can, if need be, do wonders with the poorest means.

We have just heard this evening, in the excellent address of Miss Hughes, from Cambridge, England, the question debated about the qualities which constitute a good teacher. My object is only to give a contribution to the answering of this question: How shall a good teacher be procured? How should teachers be trained? And I purpose to give that contribution, not by general remarks, but simply by stating to you how we have worked out this problem in Sweden. I confine myself to giving an account of how we train our teachers in the high-schools; only in passing will I mention that the teachers in board-schools, or what you would call primary and grammar schools, are trained in seminaries, and that their training course lasts four years.

Our high-schools have no connection with the board-schools, or primary schools. Their work is to a certain extent parallel with the work of the latter. The boys—for I am sorry to say we have no public high-schools for girls; high-schools for girls are all private, some of them supported by government grants—the boys enter the high-schools when nine or ten years old. They must then have acquired the principles of the three R's, the first elements of Swedish geography, etc. The aim of the high-school is to give a complete liberal education, and those boys who pass through the nine classes of the high-school and pass an examination before certain censors, appointed by the government among the professors of the universities, are admitted to the universities. The education in a high-school in Sweden thus covers the grammar school, the high-school, and one or two years of a college course in America.

So much for the high-schools themselves. Let us now pass over to the training of their teachers.

(1) The first thing we require from the teachers in these schools is that they should be university men.

We do not want them to be taught all their wisdom in colleges or seminaries. They shall have a taste for scientific study; they shall have learned how to study independently of masters. We do not want them to be accustomed to *jurare in verba magistri*, and we wish them to bring their independent spirit with them in the classroom, to make their teaching fresh, lively, and suggestive.

The freedom of study is complete in our universities, although the authorities offer their help to the students, for the better use of that freedom. Having studied a few subjects of his own free choice thoroughly, the undergraduate, after careful examination, receives his first degree as Bachelor of Arts. Now, that degree is required of all teachers in our public high-schools, but on the condition that the subjects chosen are four or five of those which are taught in our schools. For those teachers who wish to be employed in the four higher classes of the school, where the boys are of an average age of fifteen to nineteen years, it is required that they should be licentiate of arts; that is, they shall have passed through the most essential work for the Ph.D. degree. (To become Ph. Doctor, he is required to have published and publicly defended a scientific treatise.)

(2) Now I come to the peculiar institution which is the essential point in the education of our high-school teachers; that is, a year's training at a public high-school.

During that year the candidates have to make themselves familiar with all branches of school-work. They have, as it were, to repeat their own school life for a year; but this time not as pupils, but as lookers-on and critics. They have now to attend the lessons, any lesson they wish; to give lessons in turn and in prescribed order; to discuss the lessons with the different teachers; to take and to give advice in brotherly union with

the principal, the teachers, and the young fellow-candidates. To any one who is anxious to be a good worker in his future calling this is a year of the greatest interest.

Three large high-schools in Stockholm, and two in Uppsala and Lund, the towns of our two oldest complete universities, are in this way open to the candidates. Ten candidates are sent to each college. The candidates choose at least three subjects, the teaching of which they intend to study and practice. The principal of the high-school makes up a plan for each of the candidates, showing the time he has to give lessons in the different classes. The work is in that way meted out for the year, so as to escape frictions and collisions in the ordinary school work. The principal also attributes to each candidate his tutor among the teachers of the school. These tutors have, each in his subject, to watch the candidate, give him advice, and assist him as a friend and more experienced teacher.

From this you can easily understand, ladies and gentlemen, how the work is carried on. The candidate enters his tutor's class. He listens to the lessons. He discusses the lessons with the teacher, and very often the teacher receives good suggestive remarks from the young candidate. He gives lessons himself in the presence of the teacher, having discussed the plan beforehand, and he gives lessons without previous prescriptions from the teacher, leading the hour in his own independent way. One or two of these last-mentioned lessons he gives in the presence of the principal, the tutor, and his fellow-candidates. Certain hours every week are reserved for discussion of the lessons, when all the candidates freely give their opinions, often very animated and instructive discussions. Having finished his course in one class, the young candidate moves to the next step, the next class, possibly under another tutor. In the subjects he has chosen, one after another, he thus treads over the whole field of the school, although not necessarily in all classes.

When the year is gone, a committee of those teachers who have had him under their care give him a certificate, stating his ability as a teacher in each subject, and his aptitude for teaching generally.

As I said before, it is only in certain high-schools this work is carried on, in the capital and the university cities. In these cities there are a great number of schools of different kinds, and the candidates are encouraged to visit the best teachers in these schools, and so take the better advantage of their training year.

This system has an advantageous effect not only upon the future teachers, but also upon the high-schools themselves where those candidates attend. The teachers in these schools feel their responsibility in a higher degree; they are stimulated by the young to a higher standard of work; watching the young, they are bound to keep a watching eye upon themselves; they must always be prepared to have a critic present at their lessons, and, you know, these young men, fresh from university studies,

are severe critics. So the teachers are obliged to bring their knowledge from fresh springs; no stagnation is allowed.

But is it not injurious to the boys in these schools to have such interference in the regular work of the ordinary teacher? Of course, to a certain extent, it may be so. But whatever the boys, in one way or other, may suffer is counteracted by the higher skill of teaching that must be the effect of the system. So much for the practical part of the training. There is also a purely theoretical part.

To each of the towns where training is given, the government appoints a competent man, a professor at the universities or a man otherwise qualified, to lead the theoretical part of the training. He has freedom to arrange the forms of his teaching according to his own views. He generally lectures on the history of education, the methods of education, etc., and he combines his lectures with discussions. Certain evenings are devoted to round-table conferences, discussions about certain chapters of such works as Spencer's on Education, Hiffing's educational works, and others. Before the year is completed the candidate has to write an essay on an educational subject, chosen by himself with the approval of the professor. And a note of this is entered in his teacher's certificate.

This is the training year of the future teacher. The candidate is now free to apply for appointment as an ordinary teacher or settled master in a public high-school. But, owing to circumstances, which I hope will soon disappear, we have at present in Sweden not a few assistant teachers, appointed only for the year, although in most cases the appointment is continued as long as the assistance of the teacher is needed. And, on the other hand, the number of young men who wish to work as teachers is great, so that the competition here, as in other branches of work in the old countries, is extremely keen. As a rule, therefore, the teacher has to work many years as an assistant teacher, and even these years may be considered as a period of training, before he enters a school with the full responsibility as an independent and settled master. Another result of that competition is that the university standard of the teachers generally is above that which the law requires.

But I only wanted to give you an account of the training year, and I have finished. I only wish to add that our system works well. I have myself passed through my training year in Uppsala, and I shall always remember with gratitude what I believe I have gained by it. Afterward I have for many years been a teacher at one of the above mentioned high-schools in Stockholm, and I have always been impressed by the earnestness, often enthusiasm, of the teachers and the creditable work of the candidates. Of course I will not contend that our system is perfect, but it is a good and effective system. It is a work in the right line. For it draws out and develops the individuality of the teachers; it proves to them the necessity of further study; it is an illustration of the maxims we heard

the other day : Earnest study makes a good teacher, and the best teacher is the best method.

On behalf of my colleague, Doctor Lagerstedt, and the other Swedish representatives, I thank you, Mr. Chairman, for the kind words which you have addressed to us, and I thank you, ladies and gentlemen, for the cordial way in which you have received them. I am glad to be able to express to you the feelings of friendship, respect, and sympathy with which we are accustomed to think of you in our country. For we often think of you ; we are in constant communication with you. Every year there is a constant stream of our countrymen, men and women whom we should be glad to keep at home, to whom you give a hearty welcome and the valuable gift of citizenship in this commonwealth ; men and women who, leaving the comparatively small country in the north of Europe, prefer to work out their life's problem in this powerful country, with its immense forests, and rich, fertile plains, unlimited possibilities, and boundless hopefulness. Yes, Sweden may be a small, in some respects an unimportant country, but in the spiritual world we claim equality. And not least in the educational work of nations have we been happy enough to give as well as we are eager to receive.

In an eloquent speech a week ago Mr. Barnard mentioned the name of a great educator of ours, who also is well known in America, Per Siljestr n. He could bear me testimony as a man who has learned from you, and whose experience, I have no doubt, has left behind many traces in American schools. And, to omit a great many other things, look at the impulse of rational physical education and manual training, the value of which cannot be exaggerated ! These impulses have come to a large extent from Sweden, and by being spread and practiced among other nations, by mutual giving and taking, I am sure they will be more fully and practically developed.

Thus nations by friendly intercourse are able to mutually inspire each other, though separated by so many natural and artificial barriers. I know, Mr. Chairman, this is not the occasion to raise a thorny question. But I cannot withhold a suggestion, not to the Americans and the Englishmen here assembled, but to the representatives of other nations. Let us join here, and acknowledge a fact, the fact that the English language is developing, in spirit and in geographical extension, to become the language of mankind. Let us as true educators be quick to grasp this fact. Thus we would hasten the speed of civilization. The native language is sacred ; it shall always be the first in our veneration ; but, in my opinion, we should do good and practical work if we all would agree to put the English language in the second place in our curriculum. Thus not a few privileged but the great masses of people should have the advantage of free and easy communication with other nations ; we should all be led to a better and fuller understanding of each other, and we should

be able the better to foster good will among men and peace upon earth. We should not only work better for our national welfare, but we should in a higher degree be able to further the progress of humanity.

CLOSING REMARKS.

BY THE CHAIRMAN AND OTHERS.

CHAIRMAN ANGELL: Now we have reached the end of the programme, which is the last of the general sessions of this congress. I am sure we cannot close, however, after having heard the voices from these different nations to-night, without realizing that this is rather an unique scene. I venture to believe that no such scene has ever been witnessed before at any educational congress in this country, where the stage has been occupied almost wholly by representatives from foreign lands; and I am sure that I do but express your deep-seated feelings when I venture to return to our friends from foreign lands our heartfelt gratitude for their kindness in coming to address us and to encourage us here to-night. (Applause.) Before we close I am sure there is one man to whom we all feel indebted, and you would hardly pardon me if I did not ask him to speak one word of farewell, and that is our good friend, Hon. William T. Harris, Commissioner of Education of the United States.

DR. HARRIS said: I take this opportunity to thank the delegates from home, and the delegates from abroad who have come three thousand miles, and some of them six or eight thousand miles over the ocean, and then traveled twelve hundred miles inland to this city. I thank them heartily in the name of the Committee of Arrangements for their presence.

CHAIRMAN ANGELL: Here is a man to whom we owe a debt of gratitude for these congresses, Mr. Bonney, and I am sure we must make our bow to him.

HON. C. C. BONNEY, President of the World's Congresses, said: Not to me, but to those who have supported me in this work, and to Him who has inspired and guided it, the success which has crowned these endeavors is due. I do come before you with the greatest pleasure, and extend my congratulations on the brilliant attainments of the last two weeks. Never before in the world's history was education so broadly and so splendidly represented as it has been during these past two weeks. I believe that the new movement which has thus been inaugurated is destined to go on until it embraces every people in the world in its great and comprehensive sweep. In majesty of purpose, in solemnity of declaration, in comprehensiveness of expression, no legislative act of ancient or modern times surpasses that which is known as the Ordinance of 1787 for

the government of the territory northwest of the Ohio River. The third article of that legislative declaration contains these words :

“Religion, morality, and knowledge, being necessary to good government and the happiness of mankind, schools and the means of education shall forever be encouraged.”

This is a noble declaration of the wisest governmental policy on the subject of education. This basis of a universal system of education, leading to the universal fraternity of learning and of virtue, the New World offers to the Old World. And with this concluding sentiment as to the common basis on which we can all agree and go forward to greater and higher achievements, I bid you welcome and farewell, and declare the educational congresses of 1893 now closed.

DEPARTMENT

CONGRESS OF SCHOOL SUPERVISION.

SECRETARY'S REPORT.

FIRST SESSION—JULY 26, 1893.

THE Department of School Supervision of the International Congress of Education met in Hall No. 4, Wednesday A.M., July 26, 1893. In the absence of the president of this department—Superintendent A. S. Draper—T. B. Stockwell, of Rhode Island, was chosen president.

Superintendent Powell, of Washington, D. C., who was to discuss the thesis on "Teachers' Examinations, Certificates, and Licenses," not being present, a paper on "How to Improve the Work of Poor Teachers" was read by Superintendent N. A. Fitzpatrick, of Omaha, Neb. This paper was discussed by W. S. Sutton, of Houston, Tex.; Mrs. Martin, a county superintendent in California; Superintendent J. M. Greenwood, of Kansas City, Mo.; Superintendent Amsden, Wheeling, W. Va.; Amos Town, of Mobile, Ala.; State Superintendent Sheats, of Florida; and Superintendent Delano, of Chicago.

Superintendent E. P. Seaver, of Boston, Mass., being absent, the discussion on the thesis, "University Participation for Teachers," was opened by Superintendent J. M. Greenwood, of Kansas City, Mo. He was followed by Mr. Ormsby, of Chicago; Superintendent W. S. Monroe, of Leland Stanford Jr. University; Mr. Sutton, of Texas; Dr. Cheney, of Cortland, N. Y.; Superintendent Blodgett, of Syracuse, N. Y.; Superintendent N. C. Dougherty, of Peoria, Ill.; Superintendent Bright, of Cook County, Ill.; Superintendent Shawan, of Columbus, O.; and Superintendent Stockwell, of Rhode Island. The meeting adjourned to Thursday, July 27.

SECOND SESSION—JULY 27, 1893.

The second session of the Department of School Supervision was held on Thursday A.M., July 27, 1893. In the absence of Colonel F. W. Parker, of the Cook County Normal School, the thesis, "Appointment and Tenure of Office of Superintendents," was discussed by Dr. B. A. Hinsdale, of Ann Arbor, Mich.; Superintendent Powell, of Washington, D. C.; Superintendent Buehrle, of Manchester, Pa.; State Superintendent Fitch, of Michigan; Superintendent Shawan, of Columbus, O.; Superintendent Sheats, of Florida; Dr. Hinsdale, of Michigan. This discussion was followed by a paper on "Who shall appoint Teachers, and on whose Nomination?" by H. S. Tarbell, Superintendent of Schools, Providence, R. I. Superintendent C. B. Gilbert, of St. Paul, Minn., followed with a paper upon the same subject—"Who shall appoint Teachers, and on whose Nomination?"

This subject was discussed by Mrs. Mumford, a member of the Board of Education of Philadelphia, Pa., and Superintendent Tarbell, of Providence, R. I.

THIRD SESSION—JULY 28, 1893.

The third session of the Department Congress of School Supervision was called to order Friday, at 10 o'clock A.M., July 28, 1893, President Thomas B. Stockwell presiding. The thesis, "Should the Law require the Attendance of all Pupils in School between the Ages of Eight and Fourteen?" was discussed by Hon. Thomas B. Stockwell, of Rhode Island; Superintendent Albert G. Lane, of Chicago; A. E. Winship, of the *Journal of Education*, Boston; Superintendent J. A. Shawan, of Columbus, O.; Superintendent Sutcliffe, of Houston, Tex.; and Superintendent Wise, of Baltimore, Md.; after which this department of the congress adjourned.

LIST OF PERSONS ACCEPTING THE OFFICE OF HONORARY VICE-PRESIDENT OF THE DEPARTMENT CONGRESS OF SCHOOL SUPERVISION.

AUSTRIA.

Dr. Konrad Jarz, State School Inspector, Gratz, Styria.

CANADA.

John Millar, B.A., Deputy Minister of Education, Toronto, Ontario.

CHILI.

Señor Don Abelardo Nunez, Inspector-General of Primary Instruction, Santiago.

FRANCE.

M. Eugène Carriot, Director of Primary Instruction, Department of the Seine, Paris.
Monsieur Jost, Paris.

GERMANY.

Herr A. Berthelt, School Inspector, Dresden.
Herr Haase, City and District School Inspector, Berlin.
Herr Heyse, School Councilor, Breslau.
Dr. Hippauf, School Councilor, Ostrowo, Posen.
Herr Israel, School Councilor and Director of Teachers' Seminary, Zschopau, Saxony.
Herr Th. Junghehn, School Director and City School Inspector, Hanau, Hessen-Nassau.
Dr. Kessler, City School Councilor and District School Inspector, Düsseldorf, Rheinprovinz.
Herr A. Kuhlitz, District School Inspector, Kiel, Schles.-Holst.
Herr H. Scherer, School Inspector, Worms, Hessen.
Dr. Smitz, School Inspector, Coesfeld.
Herr A. Schöppa, District School Inspector, Tondern, Schles.-Holst.
Herr Wagner, School Inspector, Altona, Schles.-Holst.

GREAT BRITAIN.

ENGLAND.

J. R. Blakiston, Esq., Chief Inspector of Schools, Sheffield.
Rev. Dr. Dale, Birmingham.
J. R. Diggie, Chairman of London School Board, London.

SCOTLAND.

Henry Craik, Esq., Secretary Scotch Education Department, Edinburgh.
John Kerr, Esq., M.A., LL.D., Chief Inspector of Schools, Edinburgh.
A. E. Scougal, Esq., Inspector of Schools, Edinburgh.

IRELAND.

W. R. Molloy, Secretary National Educational Board, Dublin.
A. Purser, Esq., Head Inspector of Schools, Dublin.
M. Sullivan, Esq., Head Inspector of Schools, Galway.

INDIA.

John Van Somnen Pope, Director of Public Instruction, Rangoon, Burma.

JAMAICA.

Thomas Capper, Inspector of Schools, Kingston.

JAPAN.

Mr. Nishimura Tadashi, School Inspector, Tokyo.

NETHERLANDS.

Dr. D. de Groot, School Inspector, Utrecht.

SPAIN.

Señora Doña Matilda del Real y Mijares, Inspector of Municipal Schools, Madrid.

URUGUAY.

Señor D. Urbano Chucarro, Inspector of Primary Instruction, and Delegate to World's Columbian Exposition, Montevideo.
Don José H. Figueira, Inspector Tecnico de Instruccion Publica, Montevideo.

UNITED STATES.

CALIFORNIA.

James D. Graham, Superintendent Public Schools, Pasadena.
C. S. Young, San Francisco.

COLORADO.

N. B. Coy, State Superintendent Public Instruction, Denver.

CONNECTICUT.

Eugene Bouton, Superintendent Public Schools, Bridgeport.
D. N. Camp, ex-State Superintendent, New Britain.

V. G. Curtis, Superintendent Public Schools, New Haven.
C. D. Hine, Secretary State Board of Education, Hartford.

DELAWARE.

D. W. Harlan, Superintendent Public Schools, Wilmington.

FLORIDA.

W. N. Sheats, State Superintendent Public Instruction, Tallahassee.

GEORGIA.

W. F. Slaton, Superintendent Public Schools, Atlanta.

IDAHO.

B. Byron Lower, Boise City.

ILLINOIS.

Dr. Newton Bateman, ex-State Superintendent Public Instruction, Galesburg.
Dr. Richard Edwards, ex-State Superintendent Public Instruction, Garlinville.
E. A. Gastman, Superintendent Public Schools, Decatur.
A. G. Lane, Superintendent Public Schools, Chicago.
A. F. Nightingale, Superintendent High Schools, Chicago.
Albert R. Sabin, Assistant Superintendent of Schools, Chicago.
James P. Slade, ex-State Superintendent Public Instruction, East St. Louis.

INDIANA.

J. S. Irwin, Superintendent Public Schools, Ft. Wayne.
L. H. Jones, Superintendent Public Schools, Indianapolis.
W. H. Wiley, Superintendent Public Schools, Terre Haute.

IOWA.

Henry Sabin, State Superintendent Public Instruction, Des Moines.

KANSAS.

William M. Davidson, Superintendent Public Schools, Topeka.
H. N. Gaines, Topeka.
H. C. Speer, ex-State Superintendent Public Instruction, Topeka.

LOUISIANA.

Warren Easton, Superintendent City Schools, New Orleans.
W. O. Rogers, Tulane University, New Orleans.

MAINE.

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T. M. Balliet, Superintendent Public Schools, Springfield.
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S. S. Parr, Superintendent Public Schools, St. Cloud.

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MISSOURI.

E. H. Long, Superintendent Public Schools, St. Louis.
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NEBRASKA.

Frank A. Fitzpatrick, Superintendent Public Schools, Omaha.
Frank Strong, Superintendent Public Schools, Lincoln.

NEW JERSEY.

U. W. Cnnts, Superintendent Public Schools, Orange.
C. M. Davis, Superintendent Public Schools, Bayonne.
J. Aug. Dix, Superintendent Public Schools, Elizabeth.
B. C. Gregory, Supervising Principal, Trenton.

NEW YORK.

Edward Burgess, Superintendent Schools, Poughkeepsie.
George Griffith, Superintendent Schools, Utica.

NEW MEXICO.

Amado Chavez, Superintendent Public Instruction, Santa Fe.

NORTH DAKOTA.

John Ogden, State Superintendent Public Instruction, Bismarck.

OHIO.

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E. E. White, ex-Superintendent Schools, Cincinnati.

OREGON.

E. B. McElroy, State Superintendent Public Instruction, Salem.
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Miss Ella Sabine, ex-Superintendent Schools, Portland.

PENNSYLVANIA.

Edward Brooks, Superintendent Public Schools, Philadelphia.
R. K. Buehrle, Superintendent Public Schools, Lancaster.
L. O. Foose, Superintendent Public Schools, Harrisburg.
D. J. Waller, Jr., State Superintendent Public Instruction, Harrisburg.

RHODE ISLAND.

- T. B. Stockwell, Commissioner of Public Schools,
Providence.
H. S. Tarbell, Superintendent Public Schools,
Providence.

SOUTH CAROLINA.

- H. P. Archer, Superintendent Schools, Charleston.
A. Coward, ex-State Superintendent of Education.
W. D. Mayfield, State Superintendent of Education,
Columbia.

TENNESSEE.

- A. T. Barrett, Superintendent Public Schools, Chat-
tanooga.
W. R. Garrett, State Superintendent Public Schools,
Nashville.
H. D. Wyatt, Professor in Charge Normal Depart-
ment, U. S. Grant University, Chattanooga.

TEXAS.

- O. H. Cooper, Superintendent Schools, Galveston.

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- Hon. J. L. Buchanan, ex-State Superintendent
Public Instruction, Randolph-Macon College,
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lic Instruction, Lexington.

WASHINGTON.

- Hon. F. J. Barnard, Superintendent Public Schools,
Seattle.
Hon. C. W. Bean, State Superintendent Public In-
struction, Olympia.

WEST VIRGINIA.

- Hon. W. H. Anderson, Superintendent Schools,
Wheeling.

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Neenah.

WYOMING.

- James O. Churchill, Superintendent Public Instruc-
tion, Cheyenne.

SCHOOL SUPERVISION.

HOW TO IMPROVE THE WORK OF INEFFICIENT TEACHERS.

BY FRANK A. FITZPATRICK, SUPERINTENDENT OF SCHOOLS, OMAHA, NEB.

THIS is an ever-present problem to the superintendent. It is commonly found that not more than thirty-three and one-third per cent. of a corps of teachers are excellent ; about thirty-three and one-third per cent. may be classified as fair to good ; and thirty-three and one-third per cent. may be classified as from poor to fair. Only favored school systems, with great advantages and the best supervision, reach this average in classification. It is an end and aim of all good supervision to raise the teaching character of the two lower divisions.

There are six different and differing avenues of approach to the solution of this problem :

First. The general meeting of all the teachers in a system. This meeting should be utilized to create an *esprit de corps* ; to give an impulse in the direction of general culture ; to give right direction to the schools in the immediate locality. Such meetings should not be allowed to degenerate into complaint meetings, and should have in each meeting some central thought tending to develop enthusiasm and foster a general desire for culture. From the objects of this general meeting, it may be readily inferred that it should be reasonably infrequent, and not wearying by a too long session.

Second. The grade meeting, which, gathering together teachers engaged in the same class of work, having a common object, should have specific ends and aims, some one topic being taken up, presented, developed, and afterward discussed during an appreciably short period. As the weaker teachers are always slow to present difficulties which they have encountered, a query box, in which they can deposit their queries and conceal their identity, is a great help in bringing up matters that are hindering successful effort.

Third. Weekly meetings of the teachers in each school under the direction of the principal. At these meetings general directions may be given, some pointed article from an educational journal read and com-

mented upon, and the meeting closed with the reading of some general culture book.

Fourth. The giving of model lessons by the supervisor in the room and under the eye of the weak teacher ; the object being to present a standard which can be unconsciously referred to by the teacher in the future, toward which she can work.

Fifth. Visiting the classes of teachers who are strong in the points in which the visiting teacher is weak, these visits being made under specific direction of the supervisor.

Sixth. Frequent visits of the supervisor to the weak teacher ; pointing out at each visit some specific error in teaching or discipline, together with the remedy, and following up each correction with insistence until it is grafted upon the teaching and managing ability of the teacher.

In practice, each and all of these methods should be used. Little reliance, however, can be placed upon the general meeting, because of its general character ; little upon the grade meeting, because its objects comprehend so many other items that the work done here must be general in its application, and therefore not available for the purpose of materially aiding a teacher who is not yet conscious that she needs help.

More may be expected from the weekly meetings held in each school ; but this meeting tends more to develop the individual's general strength and power, while it is specific help that is needed.

I have little confidence in the giving of model lessons. It is a gratuitous assumption that the supervisor is able to give a model lesson in each branch and class under his supervision. Indeed, it requires an amount of egotism and assurance on the part of the supervisor, that is happily not often found, to maintain that he is the supervisor of each and all of his associates in the art of teaching specific topics. Wise supervisors know that in every department under their supervision they have teachers who can teach better and secure better results than they.

They also know that the way to assist teachers is to graft upon the teaching power already possessed additional elements, thereby gradually eliminating the bad and adding consciously to the good.

Therefore there remains as the most effective means of helping teachers that of individual work in the classroom and in their presence. The tender, courteous, definite, systematic, wise, and skillful supervisor points out the error and applies the remedy ; always in such a way as to lead the teacher to help herself, and to see that while helping herself she is working with less friction and yet securing better results.

In performing this work, the duties of a supervisor are analogous to those of a physician who, in his treatment of a patient, first makes his diagnosis, which gives him the information relative to the kind of a disease with which the patient is afflicted ; and, second, the application of the remedy or remedies after the discovery and classification of the

trouble. Add to this the fact that, while the physician is called in by the patient himself, who is conscious that he is ill, or by friends who, without any medical training, have had their suspicions excited by the prevalence of plain symptoms of trouble and disorder, the supervisor must discover that his patient is sick nigh unto death, when the patient is often unconscious of his danger, and, indeed, refuses to believe that he is ill ; and we have a fair conception of the difficulties in the way of relief.

The latter difficulty is a very real one. To grapple with it the supervisor must have a clear conception of the application of the science and art of teaching under its various phases and multiform environments ; he must have a clear grasp over the essentials, and be able to brush aside from his vision the alluring non-essentials. Unless he does this, he will find himself deceived again and again by many of the counterfeit presentments of good teaching.

The essential element of a good school is the free self-activity of the pupils and of each individual pupil. If this is not present, there may be a delightful school atmosphere, a teacher with a charming personality, an excellent recitation ; beautiful flowers in the windows, magnificent pictures on the walls, beautiful writing and elegant drawings on the blackboards, botanical and geological specimens on every desk, and evidence of natural science vagaries on every hand, and yet the teacher may, pedagogically, have never had a well day in her life.

It is the business of the supervisor to analyze below this surface work and teach the teacher to reconstruct her school upon a proper basis. For this purpose all teaching may be classified under two heads: (1) The presentation of the idea to the pupil ; (2) the fixing of the idea in the pupil. Therefore, given qualification on the part of the teacher, her errors will lie in one of the above planes.

Errors of the first type are very easily detected by the supervisor, provided that certain general principles are observed. These are axioms : A supervisor must reduce his personal influence over the children in any given room to the lowest point for the time being. It is a high compliment to a supervisor's strength and sagacity to have the teacher say : " My pupils behave worse when you are in the room than at other times." He must have his associates understand that visits are made to the room to inspect the work of the pupils, not to visit and chat with the teacher. He should not, therefore, rush across the room to shake hands with the teacher, or permit her to stop her work to greet him or offer him a chair. The supervisor's object there is to catch a glimpse of the work in the room as it is when he is not there, and if he permits the distortion of conditions, he can no more diagnose the case than a physician can of a patient who ran up and down stairs a few times just before it was necessary to feel the patient's pulse. Therefore the teacher should go on with her work just as if the supervisor had not appeared ; as it is the object of all

good supervision to develop the strength of the individual teacher, that the schools will approximate more and more to that condition when they will be self-supervised. He should not break into any teaching exercise to show an error without first asking permission of the teacher; the weaker the teacher, the more deference he should pay her in the presence of the pupils.

He should also avoid a too critical attitude toward the teacher or the pupil who is reciting; endeavoring, as far as possible, to maintain an apparent well-bred impassivity toward the exercise. The production of a note-book and the jotting down of a word or two will often bring about the same kind of a collapse to a sensitive, conscientious teacher that would come to a patient if, before an operation, the surgeon flourished his knife in artistic circles before the eyes of his victim.

The skillful supervisor enters the schoolroom in a quiet, unobtrusive manner; sees at a glance the general condition of the room; notes rapidly the programme of exercises, whether this programme is being followed; sees the general attention of the class that is reciting; takes in what is going on in the teaching exercise with his ears, while with his eyes he grasps the general attention of the studying or non-reciting class; looking at the work that is being done, its character and excellence; paying strict attention all the time, through his ears, to the other class exercise. By the time that he has in this quiet manner noticed the work on the blackboards, the temperature and ventilation of the room, the condition of the floor, the value of the busy-work, or study-work, the net value of the attention to work by the non-reciting class, the novelty of his presence has worn off, and both teacher and pupils have regained their equilibrium, and normal conditions exist. From this time on, close attention may be given to the teaching exercise. Is the teacher conversant with her subject, or is she poring over the text-book to find the next question? Is she in sympathy with her class, or is her questioning listless? Is she putting her questions definitely or ambiguously? Is she questioning mainly the brighter portion of the class, or is she aiming to reach each and every pupil? Does she take advantage of the answer of this pupil to bring in the evidently apt illustration which is within the pupil's range of knowledge to fix the principle in a related thought? Does she see that this pupil who has failed, and who has had his failure pointed out by a fellow-pupil, has the opportunity to make the correct statement himself, thus completing the criticism? Does she relate the work developed in this lesson to essentials gone before, or is her work in this respect isolated and unrelated?

If she is a weak teacher, many requisites of good teaching will be wanting. The problem then presented calls for the exercise of good judgment as to which of these requisites by its lack is most destructive to her success as a teacher. This is bound up in the other question as to the teacher's general make-up and professional strength. When these problems are

solved, and the good supervisor will solve them instantaneously, he should then and there, in an undertone, point out the specific weakness and suggest the remedy. Whether the remedy should be applied at once is a question that cannot be determined in advance. Sometimes the remedy is not understood ; if not, after asking permission, audibly, of the teacher, the supervisor may take the class, and by adroit questioning lead up to the difficulty and apply the remedy. Even a trifling defect once shown, with its remedy clearly apprehended by the teacher, may work an entire uplifting of the teacher in the scale of artistic work. It must never be forgotten by the supervisor, that the great value of his criticism and remedy lies not so much in the suggestion itself as in what it suggests to the teacher.

A skillful teacher tells me that she dates her improvement as a teacher to a question in a teaching exercise on the greatest common divisor. She had presented the subject fairly well ; had had the children fix the principle by solving several problems, and was about to dismiss the class when I asked her how she supposed the children would know that the number obtained was the greatest common divisor. She did not understand ; so, asking permission, I took the class and led them up to the point when they redivided the numbers given by the discovered greatest common divisor, thus verifying the operation. This trifling suggestion she related back to her teaching in other topics, and it was, as she put it, a revelation to her.

After the supervisor has made his criticism, pointed out the remedy, seen that the teacher understands what has been done, he should leave the room, giving the teacher time to reflect upon the criticism at her leisure, with ample opportunity for putting it into practice. To remain longer would be to invite disaster by putting a restraint upon the teacher, by not giving her time to thoroughly grasp the purport of the suggestion, and by exercising even unconsciously an undue influence over her pupils.

The next day, or soon, her room should be visited again, with the definite and exclusive purpose of seeing that she is putting into practice the suggestion given ; and until this has been done, no other criticism should be made. Afterward, however, one by one, other defects should be corrected in a similar manner. A supervisor should never fail to show the teacher in subsequent visits, if he sees that the error is corrected, that he is equally ready to praise her for improvement as to criticise for deficiencies.

To fix the idea thus presented to the pupil, the teacher should have continually before her the principle of unification of studies, and also have a grasp over the related essentials in any one study. The general meeting and principal's meeting must furnish the necessary general culture basis for the comprehension of these generalizations. Given this basis, one of the surest ways to develop this power is to banish stereotyped

reviews by making each lesson a review of related essentials. The much abused written examination is also an efficient means of directing attention to essentials. The limits of this paper will not allow further treatment of this phase of teaching.

So far as discipline is concerned, it is well to view it under two phases : (1) The order of the reciting class ; (2) the order of the non-reciting class. As a rule, disturbances in a schoolroom presided over by a weak teacher occur in the non-reciting class. Disorder here usually occurs on account of defects like untrained ears and eyes on the part of the teacher, improper assignment of lessons, faulty arrangement of the programme, and lack of poise on the part of the teacher.

The teacher's faulty position in the room is frequently the source of much trouble. Weak teachers should place themselves in such a position in the room that every pupil's face may be seen without turning the head. The efficient teacher disciplines easily, simply because she keeps pupils at work, and she is so vigilant that she detects beginnings of disorder. It is of great assistance to a weak teacher to get her accustomed to stand on the side of the room occupied by the studying or non-reciting class ; her physical presence, as she moves up and down that side of the room, will unconsciously have a restraining influence over the disorderly spirits. A voice that is keyed too high is also often productive of disorder in a room ; the proper assignment of lessons, the preparatory instruction for study, are matters that are not acquired in the early stages of a teacher's career.

The proper assignment of the programme, so as to tend to the greatest efficiency with the least friction, is a matter in which the supervisor can be of the greatest assistance to the teacher. The principles underlying the construction of a proper working programme of exercises are still undiscovered, if we are to judge from the miserable specimens contained in some of the latest and most highly praised books on teaching and school management.

It may be suggested here that neither drawing nor writing is a proper subject with which to begin work after an intermission or recess, and that even a limited acquaintance with schoolwork should reprehend the following of one teaching exercise, in arithmetic or grammar, by an exercise on the same topic for the other class.

As a rule, weak teachers fail in discipline by attempting to cure too many evils at the same time. It is the part of the supervisor to point out the most destructive evil, with its remedy, and, himself shouldering the responsibility for the other troubles, insist upon the necessary steady pressure to eradicate this evil before allowing any steady effort in other directions.

In correcting errors in controlling pupils, the plan of operations falls into the same plan with that outlined heretofore, each and all leading up to that sort of restraint which will lead inevitably to a wise self-restraint.

And in this respect the first lesson taught by the supervisor should be that of increasing the power of vision and of hearing to an abnormal degree, while restraining herself to less than the normal interference with pupils who are disorderly. The weak teacher, in the first place, does not see the beginnings of disorder ; she should be made to see them. Second, she does not make any distinction between the accidental commission of a wrong, and a willful, malicious crime. Third, in the use of remedial agents she makes no distinction between the punishment that, being proper for a crime, would not be suitable for a misdemeanor. Her obliquity of vision in these respects partakes of the weakness of childhood and undeveloped characters. So long as a teacher will demote a pupil for bad behavior, keep in a whole class because she cannot discover the guilty culprit, and mete out blindly, stupidly, and uniformly the same punishment for the same class of offences, she has her horizon as close to her as it was to her barbarian forefathers.

The supervisor will detect improvement in any one respect before the teacher herself ; and, never forgetting to encourage her for the progress made, he will have the satisfaction of noting the cessation of talking and scolding, and the advent of a government through the silent forces which the development of conscious power in the teacher puts into operation.

It is the happy province of the supervisor to dissipate this fog in which all weak teachers are walking, and thus gradually lead them to a broader view of their work, its methods and aims. In doing this he must, as the teacher improves, draw himself more and more into the background, substituting gradually general directions for specific directions ; teaching her self-reliance by magnifying the value of her own efforts and minimizing the value of his own suggestions.

It is along such a pathway that all apprentices must travel before they can hope to become master-workmen.

DISCUSSION.

Thesis : " Appointment and tenure of office of superintendents."

DOCTOR B. A. HINSDALE, Professor of Pedagogy, University of Michigan, Ann Arbor, Mich.: In the city of Buffalo, N. Y., the superintendent of schools is elected by the people. I think it is a poor way. In Cleveland the present plan is : A director, who works with the Board of Education, appoints the superintendent of schools, to hold office during good behavior. He can be removed for cause. The superintendent has power to nominate all teachers to the Board of Education, which simply confirms or rejects his nominees. This scheme centralizes the power, and the people know whom to hold responsible.

The most usual way of choosing school superintendents is appointment by the school board for a term of one or more years. One year is too short a time to work out any good policy. More security should be given superintendents as to tenure of office. In Germany teachers are elected to serve until they shall be removed for educational reasons. Our country could profit by her example.

SUPERINTENDENT W. B. POWELL, Superintendent of District of Columbia schools: We should make an educational campaign for better teachers. Too much stress is placed upon methods and we lose sight of the fact that teachers must know a thing before they can teach it. The great need is for better-educated teachers. Teachers cannot teach English grammar when they do not know English. Arithmetic is not practically taught. Superintendents should choose all teachers. The superintendent must make the schools.

SUPERINTENDENT T. BUEHRLE, of Manchester, Pa., in answer to the question, "What States have laws requiring definite qualifications for school superintendents?" said: In Pennsylvania the law requires: First, a superintendent must have been a teacher within three years. Second, he must hold a certain grade of certificate for teaching, or he must be a graduate of a college, or he must be examined by the state superintendent; he must be a person of good moral character.

STATE SUPERINTENDENT FITCH, of Michigan: In Michigan a city superintendent must hold a first grade county certificate, and in small towns, a second grade certificate.

SUPERINTENDENT SHAWAN, of Columbus, O.: In Ohio, each city or town has a local board of examiners for granting teachers' licenses. Superintendents are chosen from the teaching fraternity. The Board of Education should be elected for a term of five years instead of two years.

STATE SUPERINTENDENT SHEATS, of Florida: In Florida, county superintendents are elected for four years. The county school boards are elected by the people; the school boards appoint teachers.

WHO SHALL APPOINT TEACHERS, AND ON WHOSE NOMINATION?

BY H. S. TARBELL, SUPERINTENDENT OF SCHOOLS, PROVIDENCE, R. I.

To me there seems to be but one answer to the first part of this question. Teachers should be *appointed* by the school board or school committee in whose hands this matter usually rests by law and the general consent of the American people.

The conspicuous instances of appointment of teachers by the superintendent have not yet justified the plan. The success of this method in Buffalo is not such as to be a commendation of the plan. It failed in Cincinnati. Its recent adoption in Cleveland under favorable conditions is of too brief duration and under conditions too exceptional to form the basis of an argument.

If the plan succeeds in Cleveland, as it doubtless will, the argument is but little affected thereby. The rest of us, who work under more ordinary, not to say normal, conditions, must still struggle to make the best of difficult circumstances.

The second part of the question—*On whose nomination?*—leads us into the heart of the matter. And yet this is not the most important question that may be asked in this connection, for the great purpose is to secure the *best* teachers; and the class of applicants from which such selections shall be made, and the conditions under which that class is constituted, are matters of more importance than who shall make the individual selection.

Referring in this paper to graded schools in cities of ten thousand or more inhabitants, the most important question connected with their welfare is the constitution of the class of applicants from which appointments are made.

This approved or eligible list should contain the names of those only who had graduated with full diplomas from the city high-school, or an institution of equivalent rank, or had passed an examination, conducted by the superintendent, which indicated an equivalent scholarship.

The conditions of age, school record, experience, etc., should be so adjusted that this list shall be somewhat, but not much, larger than sufficient to supply the required number of teachers. If the list be too small, the tendency to appoint teachers not on the list cannot well be resisted. If it be too large, then the struggle of the friends of applicants to secure their appointment through favoritism will find ample opportunity for activity and the appearance of justification.

If it be taken for granted, as I suppose we are all agreed, that entrance to a position in city schools should be by way of successful experience in teaching elsewhere, or through the training school, the question is an important one whether the entrance to the training school should be guarded by a gate of appointment, or whether the entrance should be free to all complying with the necessary conditions, and the gate be placed between the training school and the position of the teacher.

The latter plan has the advantage of increasing the influence of the school faculty and the superintendent upon the question of appointment. It likewise diminishes the tendency, so strong at the East, to appoint local candidates only.

Superintendent Shortridge, who founded in their graded form the schools of Indianapolis, used to say that he earned his salary by his selection of bright teachers from other towns to fill Indianapolis vacancies. For the last twenty years, however, the tendency of the training school in Indianapolis has been, as elsewhere, to secure to the local candidates the school places.

Well, who shall finally nominate the teachers? There is among superintendents a mischievous opinion that the superintendent should do this—mischievous because it leads to struggle or backing down. Now the superintendent ought to do neither of these things. He ought to stand before the school committee and the public as an acknowledged expert, whose opinion must be taken upon school questions as the city solicitor's is upon legal ones. If he is to be criticised, and every now and then beaten upon a point which he tried to carry and could not, or did not have courage sufficient to *try* to carry, then, like Samson shorn of his locks, he "becomes weak, like another man."

When public opinion asks the superintendent to assume this responsibility, let him take it modestly and courageously; but when the sentiment

is strongly adverse to such placing of responsibility, his demand for it will be attributed to desire for power or patronage ; he will be beaten, and loss to the schools will ensue.

It would take a long time to discuss all the plans adopted for the nomination of teachers. Perhaps there is none worse than to have the nomination come from the local committee in whose district the vacant place is found. This is well if the local committeeman happens to be just the right man ; but occasionally, if not often, a local committeeman will be subject to local pressure for this or that friend of this or that local politician, or advocated by this or that church or local influence. These things are hard to withstand ; they warp the judgment of even good men, ministers even, and lead to acts for which a man must apologize to his conscience. Better a small committee of men recognized as high-minded, who shall represent the city at large, and appoint or transfer teachers for the good of the whole system.

With such men, a superintendent, if he be the right man, as it must be assumed he is, can work in close harmony, and through them have a power greater than if he stood the pressure of candidates as the one solely responsible.

There is little difficulty in getting good men upon such a committee. If the general school committee is corrupt it will keep appointments in some way in the hands of individual members or local groups. If the members are high-minded enough to put power out of their own hands, they will prefer to trust their best men.

All appointments of teachers new to the system should be temporary, trial only for one year, unless sooner relieved. During this trial year the superintendent should become well acquainted with these teachers, and at the end of the year should recommend those satisfactory for permanent or regular appointment. Only those so recommended should be eligible for regular appointment. This is a safeguard of more importance than the power to nominate teachers, and one which can be more readily obtained. This is defensible ground. The superintendent can say : "I have seen ; I have investigated ; I know."

In reaching such a conclusion the superintendent will naturally and properly give the opinion of the principal great weight. What has been said in this paper has had chief reference to the appointment of the rank and file of teachers in cities of considerable size.

In special cases, such as the appointment of assistant superintendents, of supervisors of instruction, of training teachers, and others in whom special personal and professional fitness is required, and who come into intimate relation with the superintendent in the management of the schools—in such cases the superintendent cannot be true to himself nor the schools without taking the initiative and nominating such candidates himself.

DISCUSSION.

C. B. GILBERT, Superintendent of Schools, St. Paul, Minn. : The highest duty of each generation of mankind is the improving of the coming generation, for upon this alone does the world's progress depend. This is primarily the duty of the parent, who is by nature the child's guardian and associate. If, however, for any cause the state assumes this duty, it becomes at once its gravest responsibility. To assume it, and then to treat it lightly or in a niggardly spirit, is national suicide. Compared with it, problems of finance, of trade, even of war, are insignificant.

Only the wisest and the best should be intrusted with education. Of all the duties that devolve upon those charged with the administration of educational affairs, incomparably the greatest is that of the selection of teachers. The child's teacher is his counselor, his companion, and inevitably his model. Who is too good or too wise or too great for such an office? The status of public education in this country is so full of anomalies and paradoxes that it is almost impossible to characterize it. The people view the public school system with a sort of superstitious awe; they have a vague notion that it is in some way connected with what they are pleased to call their liberties, that it is a sort of first-cousin to Bunker Hill Monument, the Declaration of Independence, Liberty Bell, and other revered works of antiquity, upon the possession of which the great American citizen hugs himself.

But even this admiration, ignorant as it is, is confined to the system considered as an abstract whole; for when the American citizen of the American city comes to treat a particular school or school system, it is with no more awe, of even the superstitious sort, than is displayed by the Chinese for his demon god, to which at one moment he burns incense, and which at the next he chastises because it has allowed him to lose in gambling.

In most American cities the school system is the fag end of local politics. Frequently large sums are voted from taxes, and when the citizen has paid his share he thinks he has done his duty. Then it is turned over to the school board, and allowed to be kicked about as the foot-ball of the ward politician. Positions on the board are obtained in payment of petty political debts, or as stepping-stones to the more exalted position of ward alderman, or even, in case of a very bright man, of street commissioner. I remember a man who sought an election to the school board, and openly stated as his reason that he desired it as a stepping-stone to the position of night watchman on the police force. He attained both his ends. These people, whom the average citizen would not trust even with the management of the simplest business transaction, have the power to appoint teachers and formulate courses of study—that is, to determine both the associations and the employments by which the next generation is to be trained. This is a disheartening picture, but it is scarcely exaggerated.

I do not need to say that the most important of all the duties that can possibly devolve upon school authorities is the appointment of teachers, determining who shall be the guides and associates of the young while their plastic minds are receiving impressions for time and eternity. And yet it has been and is the common practice in the large cities of this land to appoint teachers on any and all grounds except that of fitness—personal friendship, sympathy for poverty, and in some cases money, or worse.

The main effort of those who would reform our schools has been devoted to attempts at removing this evil and securing the appointment of teachers on the ground of fitness alone. These attempts are interesting mainly for their futility.

Among the earliest was that made in Cincinnati a few years ago, when the appointment of teachers was placed absolutely in the hands of the superintendent, and for one year in that city teachers were honestly appointed. But as the appointment of the superintendent was as absolutely in the hands of the school board, his term of office lasted just one year. This indicated the need of a more far-reaching remedy. The most striking and radical of all attempted remedies is that made in Cleveland. This method has much promise, and is excellent in that it follows certain principles that have come to be recognized by schoolmen, the most important of which is that the power to appoint and remove teachers should be vested in some responsible authority who is an expert judge of teachers, and that he should be protected in his office and held responsible merely for results.

These, undoubtedly, are fundamental principles, and their recognition in Cleveland is encouraging and will be watched with great interest as an experiment.

A political ring or gang may rob the city and squander its funds, and the worst result is the neglect of public improvement or the loss of money. The people become indig-

nant, turn out the gang, and for a time secure better administration, until in due time the new gang takes the place of the old and itself needs to be turned out. This is disagreeable and annoying, but not vital. No fundamental interests are affected. But if the schools of a city become bad, the evil is immeasurably great. It affects the very life of the city, and the effect is permanent; yet nobody appears to see and feel it.

I am speaking from experience when I say that the strongest demand for the appointment of incompetent teachers comes not from the politician but from the citizen who is interested in this pitiable case, or in that friend, and prefers to see the city provide a place in the public schools for the support of an indigent family rather than do it himself out of his own pocket.

There are two things which, I think, may be attempted in the present stage of public education with a reasonable prospect of success. They are, first, that the superintendent of schools, who is supposed to be an educational expert, shall certify and nominate teachers; and, second, that none shall be appointed without his certificate of qualification and his nomination. Even this requires that he himself be made quite secure in his tenure of office. The power to keep out and drop out at regular intervals the totally unfit is a great power, and it is all that the American citizen will stand at present.

But I would urge that for the present we exert such influence as we may have, upon those who are legislating for the improvement of the schools, toward securing the following simple ends: First, small boards of education instead of large ones, either elected at large or appointed by the head of the city government. My own judgment is in favor of the former method. Second, a long term of office for the members of the board, with never more than a very small minority retiring at one time. Third, either long tenure or unlimited tenure for the superintendent of schools, with power to certify and nominate teachers to the board, who shall not appoint without his certificate and nomination, and possibly with the further power of transferring teachers according to his judgment. This would be so great a gain over the present condition in most cities that we could all heartily rejoice, and it is certainly better to attempt the possible and succeed than to attempt the impossible and fail.

MRS. MUMFORD, Member of the Board of Education, Philadelphia, Pa.: Schools should be removed entirely from politics. Superintendents should be absolute in their department. School boards should be small. In Philadelphia the judges are elected by the people for a term of ten years. These judges appoint the members of the school board.

H. S. TARBELL: In Providence the superintendent does not nominate the teachers; and I like our system. Any one of good judgment can nominate a good teacher, but expert judgment should come in to determine whether or not a teacher is successful.

DISCUSSION.

THESIS: "Should the law require the attendance of all pupils in school between the ages of eight and fourteen?"

HON. THOMAS B. STOCKWELL, Commissioner of Schools for Rhode Island: It is the duty of the state to educate the masses. The greatest good to the state demands the education of its citizens. The good to the state is of prime importance; and should this greatest good be opposed or thwarted by parents, the authority of the state should prevail in its own protection. In states where children under fourteen years of age are not permitted to work, those children should be compelled to go to school.

The congregation of children in the streets and alleys is a great source of vice and crime, and should be prevented by the state. Childhood is the character-forming period, and it is for the good of the state that character be correctly formed.

The state should educate its children, because of its economic value. Ignorance is always a menace to a community, financially. Prevention of crime is far cheaper than punishment of crime. Again, the prosperity of our institutions demands that ignorance shall be reduced to a minimum. It is the duty of educators to form public sentiment in favor of universal education.

ALBERT G. LANE, Superintendent of Schools, Chicago, Ill.: People are not inclined to put upon the statute books all cases of "Thou shalt not." The parent is responsible for a child's being, and for his physical and moral training. Society is endangered when the parent does not meet his responsibility. Laws have no terror to the law-abiding. When parents refuse or neglect to give the child all the rights that the well-being of the state and of the child demand, the state should step in and assume its authority, and provide that its own well-being is justly subserved and the rights of the child are respected. In many cases the state now steps in and takes charge of the child, and assumes the authority which the parent neglects; it also assumes the parent's responsibility and educates the child.

Let the law cover those cases only where parents fail to educate and to look after the morals of their children, and thereby cause them to become a menace to society. The law is to protect and aid parents in their duties to their children. First let law educate those children who are in the hands of the law, and whose parents are helpless to do anything with them.

The superintendents of schools in large cities often are appealed to by parents who have done everything they can in the control and government of their children. Let schools be provided to aid parents in educating such children, and become to them what a parent ought to be. When people understand this need of such schools, there can be no reasonable opposition to them, or to the state stepping in to assist the parent in making his child a good man or a good woman.

A. E. WINSHIP, Editor *Journal of Education*, Boston: In order to make compulsory law operative it must come from the people. Massachusetts has the best laws on this subject in the Union. The people believe in universal education. Education should be distinct from politics. This question should be put to the people on its own merits, and it would then certainly be carried.

J. A. SHAWAN, Superintendent of Schools, Columbus, O.: We have many parents (foreigners) who do not understand what education is needed to make good American citizens. The home education of such is entirely inefficient. The children should be brought in contact with teachers who understand this matter, that the children may become Americanized as well as educated. The time has come when every child in this republic should be educated, whether the child or the parent desires it or not.

SUPERINTENDENT SUTCLIFFE, Houston, Texas: The country is not making provision for its children as thoroughly as it should. Better teachers and more seats in school are greatly needed.

GRADING AND CLASSIFICATION.

BY MRS. ELLA F. YOUNG, ASSISTANT SUPERINTENDENT, CHICAGO.

BUT a few years had elapsed after the general adoption of the graded system by the public schools of this country, before questions concerning the necessity, desirability, and possibility of frequent reclassifications within the grades were made the subject of much discussion.

Notwithstanding the notes of warning sounded at that time by the thoughtful, so marked has been the tendency toward the development of a perfect mechanical movement of the eight or twelve graded wheels, that it is eminently fitting to consider again the arguments advanced twenty years ago. Nothing new can be presented, so exhaustively was the subject treated at that time by the originator of the discussion, Dr. William T. Harris.

That arrangement of a course of study which so grasps the divisions of the branches taught that there shall be a relation and a harmony between

the various parts, benefits both teacher and pupils. The teacher's work of preparation from day to day is within such limits that greater power may be brought to bear on the fewer objective points. There is variety in the pupils' lessons, yet no yawning gulf separating the different subjects; each helps the other. It is but a step further to the conclusion that this carefully planned course of study will result in a classification of pupils based upon their mental powers and attainments.

The theory upon which the subjects in a course of study are grouped; and the theory upon which children in a school are classified, presuppose the same conditions, viz.: the possession by the pupils of information on the same topics, and the command of their mental powers within about the same limits. Judging from the sharp criticisms made upon the leveling effect of training in the graded schools, and from the disproportionately large percentage that do not complete the course, it is a fair inference that in many schools there is a radical disagreement between the conditions and the theories.

The main cause of the trouble is the monotonous routine, induced largely by the plan of keeping classes intact, and moving them from grade to grade at long and regular intervals of time. A person devoting the same amount of time, year after year, to the accomplishment of a given amount of work may acquire mechanical skill, but not that spiritual discernment which helps souls to rise to the fullest use of their powers.

In the steady march of classes through the grades, all keeping step to the same time, the distinction between studies for information and those for power to take up higher lines of work is lost sight of; the varying degree of strength in different classes, and of classes within classes, is not recognized. To dwell upon this phase of the influence of fixed intervals of time between the promotions of all classes is not to wander from the subject under consideration; it is to present the explanation of an element of weakness which pervades the teaching corps of the graded schools.

It is claimed by many that the plan of making what are known as individual promotions—that is, the transferring of the one or two best scholars in a grade to the next higher grade at any time during the year—makes a system flexible. These individual promotions include two classes of pupils:

- (1) New-comers prepared to enter a grade, with the exception of one subject to which they need to devote extra attention for a short time.
- (2) The few remarkably bright children who are able to skip a large amount of consecutive work.

Though many ignore the existence of these two classes, yet the recognition of this right of the few does not imply flexibility in the instruction and classification of a school.

True flexibility necessitates a frequency of classification and reclassification that shall so bring together knowledge and power that the time and energy expended on any subject shall be in direct ratio to the ability of

the class, not that the time spent shall be the same that has been and will be spent by all other classes. One of the impediments to this flexibility in classification, as well as in instruction, is the general opinion that all classes must be nearly equal in membership. A class composed of the few that have dropped behind because of illness, or of the few needing a rapid review, or of those capable of making a rapid advance, will always be smaller than the class made up of average pupils.

The custom of promoting classes at long intervals of time results in the congregating of the truants and the indifferent in the middle grades of the elementary schools. The problem of helping these children to maintain themselves in doing work suited to their maturer minds has two solutions: One is the establishment of an ungraded room with a very small membership, and with the best teacher in the building, who shall give individual instruction. The other and the better solution is the throwing off of the long interval promotions, and the taking on of a flexible form of classification that will result in classes separated by such short intervals of time that the child, with the added power of age, will be able to move more rapidly.

In advocating this rapid movement it is with a full consciousness that many minor exercises will not receive much attention from the truants returning to the fold, from the foreign-born lacking a knowledge of the English language, from the semi-invalid just recovering health and interest, or from the indifferent who are able to think but unwilling to work. The fact that ungraded rooms are largely composed of boys serves to strengthen the opinion, based upon years of observation, that the plan of grading with long intervals between classes is more detrimental to the boys than to the girls; that it results in the withdrawal of many boys from the public schools.

The number of reclassifications is necessarily greater in the lower or primary grades than in the upper or grammar grades. In early childhood the training and attention given by parents make more and greater variations in the degrees of rapidity with which children take up the school work than are found in the higher grades. There the school influence is more marked than the home influence in connection with things learned in school. Another cause of the frequent differences in power and mental growth of children between the ages of six and ten years is the prevalence of children's diseases and the greater susceptibility to colds and indigestion.

Absence during several consecutive weeks interferes from time to time. What shall be done when the absentee returns? He may be placed in the class to which he formerly belonged. This course assumes that the teaching during the child's absence was of an exceedingly poor quality. Or, in returning him to his class, the requirement of extra attention to the lessons lost may be made. This added pressure on the physical and mental powers of the enfeebled little one cannot be condemned too

severely. He may be obliged to defer his return to school until the stated time, some months hence, for a new class to take up the work where he left it. Last and best of all, he may belong to a school in which these inevitable and frequent interruptions, together with the varying rapidity of development in children, are recognized. If he is so fortunate as to belong to a school of this kind, there will be classes separated by short intervals of progress, and he will be placed where he is able to work with the maximum of ease and profit.

It is a mistake that admissions to high-schools are made yearly only. Two causes have determined the yearly plan: (1) In the past the colleges and universities have admitted students in the autumn only; (2) high-school teachers, as a rule, have the same tendency to inertia that prevails in the elementary corps. The introduction of the mid-year plan of admission to the high-schools would benefit them as well as the elementary schools. Some supervisors, theorizing that the rigidity of the graded system will not disappear unless a grade is reclassified whenever a teacher thinks a class is ready to enter a new grade, have advanced classes at intervals of a month or six weeks. Experience has shown that the average teacher loses sight of the intervals, and, as a result, that the classes in a grade soon settle down to work in the same place. The theory has no weight when put into practice.

If greater flexibility be desired, and if the whole matter of changing the grade of classes be left in the hands of the principal of each school, it will be found upon examination that in the majority of the schools in that system the comfortable plan of yearly promotions will be followed; the schools thus being machines turning out their products at long intervals of time, regardless of the many variations attendant upon the movements, either physical or mental, of a band of wide-awake children.

That grading, classifying, and transferring which keep a school flexible, which meet the needs of the individual pupils, will not be found in a school where a specialty holds sway. There children will be detained in their grades in order that it may be shown that first grade children can read well in the second reader; that second grade pupils can observe as well as fourth grade pupils observe in other schools; that sixth grade pupils can quote from encyclopedias as well as high-school pupils sometimes quote.

Flexibility in grading and classification will be found in that school in which the principal has a personal knowledge of the work of the various classes, and of the ability and growth of each child. It will be found in that system of schools in which the superintendent has a personal knowledge of the work of each teacher, and develops, all along the line, correct thinking about the dangers attendant upon mechanism in education.

DEPARTMENT

CONGRESS OF HIGHER EDUCATION.

SECRETARY'S REPORT.

FIRST SESSION—WEDNESDAY, JULY 26, 1893.

THE Department Congress of Higher Education was held in Hall VII. of the Art Palace, Chicago. It was called to order at 9.30 A.M., Wednesday, July 26, 1893, by the general Chairman of the Department Congress of Higher Education, D. C. Gilman, President of Johns Hopkins University.

On motion, the hour for opening each morning session was fixed at half-past nine o'clock, and the hour of adjournment at noon.

The opening address was made by the Chairman, D. C. Gilman. This was followed by an address on the theme, "How far is it desirable that Universities should be of One Type?" by President Martin Kellogg, of the University of California. This subject was discussed by Professor David Fiske, of the University of Chicago; President Canfield, of the University of Nebraska; Professor W. O. Sproull, Dean of the University of Cincinnati; Professor H. C. Cameron, of Princeton University; and Melvil Dewey, Secretary of the Regents of the University of the State of New York.

The next theme, "How should we cope with the Problem of Excessive Specialization in University Studies?" was considered in a paper by Professor Giuseppe Allievo, of the University of Turin, Italy, an abstract translation of which was read.

The subject considered next was, "Should an Antecedent Liberal Education be required of Students of Law, Medicine, and Theology?"

Professor Woodrow Wilson, of Princeton University, read a letter from Professor James Barr Ames, of Harvard University, upon this subject, and then presented his paper, treating the subject at length. The subject was further discussed by President Gilman, of Johns Hopkins University; Mr. Melvil Dewey, of Albany, N. Y.; President Baker, of the University of Colorado; Dr. Imelmann, of the Joachimsthal Gymnasium, Berlin; and President H. T. Eddy, of the Polytechnic Institute, Terre Haute, Ind.

SECOND SESSION—THURSDAY, JULY 27, 1893.

President James B. Angell, of the University of Michigan, occupied the chair. The venerable ex-President of Princeton University, Dr. McCosh, was presented to the Congress by President Gilman. Dr. McCosh said:

"I must express in a sentence or two our great obligation for the great place given to education in connection with the Columbian Exposition. I do not think there is any great public exhibition, and I have been in several, which has given so much attention to education. We are under great obligation to Dr. Harris, United States Commissioner of Education, for giving such place to all the varied departments taught in this country and taught in other countries. I am much obliged for the honor you

have done me. I feel the deepest interest in your work, and, as I depart, allow me to wish you well and all success."

M. André Chevrillon, of the French Educational Delegation to the World's Columbian Exposition, was introduced and said :

"My visit to America is made in order to study what I can of American universities. I have gathered a great deal to remember, and observed much that will excite admiration when reported in France. The present question in France is how to reconstitute those old historical institutions which were the French universities. While the university, strictly speaking, does not exist in France in full formal organization, yet higher education does exist. In re-forming the old groups of scattered faculties so that complete universities may be coördinated, it becomes desirable to study what other nations have done; and the American universities, among others, contribute something helpful toward carrying out this idea."

Professor W. G. Hale, of the University of Chicago, read a paper on the question, "Should Greek be required for the Degree of Bachelor of Arts?" and supplemented his paper with telegrams and other communications upon this subject. The subject was discussed by Professor A. F. West, of Princeton University; Professor Whipple, of Wheaton College, Illinois; President David Starr Jordan, of Leland Stanford University, California; Dr. Imelmann, of Berlin; Professor Paul Shorey, Professor T. C. Chamberlin, and Professor Hale, of the University of Chicago.

President Raymond, of the Wesleyan University, of Connecticut, followed with an address on "The Signs of Improvement visible in the Undergraduate Life of American Students." This subject was discussed by President Blanchard, of Wheaton College, Illinois, and Rev. Dr. Payne, of New York City.

THIRD SESSION—FRIDAY, JULY 28, 1893.

President Low, of Columbia College, New York, occupied the chair, and made the opening address on "The Relations of Professional Schools to the University."

This address was followed by a paper on the topic, "The Evolution of Liberal Education," by Professor A. F. West, of Princeton University.

This subject was discussed by Professor Hale, of the University of Chicago; Professor West, of Princeton University; President Jordan, of Leland Stanford University, California; President Blanchard, of Wheaton College, Illinois; and Professor Sanford, of the Stanford University, California.

"On what Conditions should the Degree of Doctor of Philosophy be given?" was read by Professor W. O. Sproull, Dean of the University of Cincinnati. This subject was discussed by President Gates, of Iowa College, Iowa; Professor Fisher, of Wheaton College, Illinois; Professor Hale, of the University of Chicago; President Gilman, of Johns Hopkins University, Baltimore; and President Blanchard, of Wheaton College.

Resolutions were passed by the Congress appointing a committee to coöperate with other bodies in protecting the significance of the Doctor's degree. The Committee was constituted as follows: President Gilman, of Johns Hopkins, Chairman; Presidents Dwight, of Yale, Patten, of Princeton, Harper, of Chicago, Low, of Columbia, and Angell, of Michigan.

The last paper was read by Bishop Keane, of the Catholic University, of Washington, D. C., on "The Relation of our Colleges and Universities to the Advancement of our Civilization."

The closing address was made by President Angell, of the University of Michigan. After closing remarks by President Gilman, of the Johns Hopkins University, and President Harper, of the University of Chicago, the Congress adjourned *sine die*.

LIST OF PERSONS ACCEPTING THE OFFICE OF HONORARY VICE-PRESIDENT OF THE DEPARTMENT CONGRESS OF HIGHER EDUCATION.

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AUSTRALIA.

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Rev. John Kinross, B.A., D.D., Principal St. Andrew's College, Sydney, New South Wales.

H. C. Russell, Sydney Observatory, Sydney, New South Wales.

Miss Julie Rapiport, East Melbourne.

Prof. T. P. Anderson Stuart, University of Sydney, New South Wales.

Henry Chamberlaine Russell, Vice-Chancellor of the University of Sydney, Sydney, New South Wales.

J. B. Lillie Mackay, President Gordon Technical College, Gee Long, Victoria.

TASMANIA.

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NEW ZEALAND.

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Prof. Sigmund Exner, University of Vienna, Vienna.

Prof. Dr. H. B. Lambl, Rector Bohemian Polytechnicum, Prague.

BELGIUM.

Prof. Adolf Cenlener, University of Gand, Gand.

Prof. M. V. Dwelshauvers-Dery, University of Liège, Liège.

Dr. Galopin, Rector University of Liège.

M. Leon Leclerc, Professor University of Bruxelles.

M. Eugène Monseur, Professor Comparative Philology, University of Bruxelles.

M. A. Prins, Professor l'Université Libre, Bruxelles.

M. Emile Vinck, *Revue Universitaire*, Brussels.

BRAZIL.

Dr. Agostin José de Souza Lima, Professor at the Faculty of Medicine, Rio de Janeiro.

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Prof. Charles G. D. Roberts, King's College, Windsor, N. S.

Prof. Ramsey Wright, M.A., B.Sc., University of Toronto, Toronto.

CHINA.

Rev. W. B. Bonnell, Anglo-Chinese College, Shanghai.

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Don José M. Carbonell y Ruiz, Havana.

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Señor Carlos R. Tobar, Dean of the Faculty of Philosophy and Literature, Central University of Ecuador, Quito.

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M. Hermite, Professor at the École Pratique des Hautes Études, Paris.

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M. E. H. Martin, French Delegate to the World's Fair Educational Department, Chicago, Paris.

M. Milne-Edwards, Museum of Natural History, Paris.

M. G. Monod, Professor at the École Pratique des Hautes Études, Paris.

GERMANY.

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Prof. Rudolph Eucken, University of Jena.

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Prof. Dr. Hermann Jacoby, University of Königsberg.

Prof. W. His, University of Leipzig.

Prof. Dr. Fred. Kattenbusch, University of Gießen.

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HIGHER EDUCATION.

OPENING ADDRESS.

BY THE CHAIRMAN, DANIEL C. GILMAN, LL.D., PRESIDENT OF THE JOHNS
HOPKINS UNIVERSITY.

It is fair to presume that an intelligent foreigner, like Professor von Holst, now one of our colleagues ; Professor Bryce, the most philosophical observer of American society since De Tocqueville (not even excepting Francis Lieber) ; or Professor Levasseur, the accomplished member of the Institute of France, now visiting this country, if he were asked his impressions respecting the state of higher education in the United States of America, would reply that the public show an amount of interest in universities and colleges unequalled, and perhaps unapproached, in England, France, or Germany. If he were asked for particulars we might find that his impression was not wholly derived from the notices that appear in the public journals, nor from the increased attendance in our halls of learning, nor from frequented conferences like this, but from the readiness with which the people in many of the States tax themselves for the support of seminaries of learning, and from the munificence with which private individuals contribute to the endowment of old and new foundations. Yet this friendly observer would doubtless add, if he felt at liberty to speak with candor, that American ideas in respect to higher education are undeveloped. The diversity of scope, methods, purposes, degrees, names, is confusing. No established churches exercise either legal or traditional control. No central, national authority has any right of superintendence, oversight, or inspection. Each separate State has its own organization. There is not even a consensus as to the province of the "State universities." For example, compare Michigan and New York. Where such institutions are established, other universities may flourish side by side. Academic titles have no significance unless the source is known from which they are derived. Anybody who chooses may call himself "a professor," and the only penalty that he incurs is the gentle rebuke of his neighbors. The word university has often been applied to institutions of the humblest character ; for example, it was a title frequently bestowed upon the schools for the emancipated blacks, established in the decade just following the civil war. Indeed, if the intelligent foreigner were to seek, either in our usages or in our educational literature, for the received idea of a university, he would often be amused.

He would hardly know whether Lowell was in jest or earnest when he told Dr. Walker that "a university is a place where nothing useful is taught"; nor would he be quite sure what Garfield meant when he said, in substance, that "a log with Mark Hopkins at one end of it and a student at the other would be a seat of learning."

About fifty years ago, one of the most gifted and one of the most influential men produced in this country projected what might be called a university of his own. Naming several of his associates, Ralph Waldo Emerson said to a correspondent: "Do you not see that with one or two chosen persons we might make a puissant faculty and front the world without charter, diploma, corporation, or steward? Do you not see that if such a thing were well and happily done for twenty or thirty students only at first, it would anticipate by years the education of New England?" All this, from a European point of view, is abnormal, untraditional, and unconstitutional. It is hardly comprehensible by those who are only familiar with the ways of their own lands. They know the difficulties encountered in securing a charter for the Victoria University in England, or in establishing a teaching university in London, and the close restriction of the term university in France, and the orderly government and affiliations of the universities of Germany. Undoubtedly (the friendly observer might remind us) there is in this country much wasteful expenditure of force, much overlapping, much rivalry, much error that might be avoided, much misleading of the public, and even much injury to the rising generation.

With criticisms like these, the leaders of higher education in this country would probably concur. In rejoinder, they might ask the intelligent observer from other lands to remember that the diversity which seems to him like confusion is almost an inevitable result of that local self-government upon which all our institutions depend. If our universities are suffering from excessive spontaneity, they are free from every form of intellectual despotism. Separate institutions may indeed be governed by the enactments of a legislature or the regulations of a religious denomination, but, as a whole, the higher education of this country is absolutely free from political and ecclesiastical control. Any attempt to regulate the universities by forces outside of themselves would certainly be thwarted—could hardly be thought of. Americans prefer the lesser to the greater evils. At the same time it is unfortunate that there should be so much reduplication. Every one knows to what extent in his own neighborhood this manifolding process has gone on. It is like the paralleling of railroads, where the doctrine seems to be, "If a line is doing a good work, duplicate it, even if you ruin it, so as to get a share of the profits." Many years ago, President White, of Cornell University, in an address which ought to be kept in constant circulation, urged that there should be concentration upon a few strong universities, not multiplication

of feeble projects. Still, the contrary tendency prevails, and every decade sees its new progeny.

Nevertheless American scholars may review with satisfaction the history of their highest institutions of learning. Not one of those established in colonial days has disappeared. Two of the three oldest have made unvacillating progress, and are now first, not only in years, but in resources, comprehensiveness, and scholarship. In each successive generation they have adapted their methods to the requirements of the times, and have never been more useful, more honored or more beloved, and never more closely studied than since 1876. Such examples are inspiring. They encourage those who are laying new foundations—perhaps in regions rescued within the last half-century from the wilderness, perhaps in States that were slow to recognize the value of higher education. If any foreign observer, if any domestic censor is inclined to point out the limitations of American universities, let him remember the words of an English don to his younger and opposing colleague: “We are none of us infallible; not even the Junior Fellows!” It is no disparagement of the new foundations—on the contrary, it should be to them an incitement—to recall the honest financial administration, the loyal devotion of professors to their callings, the increasing liberality of opinions, and the unfailing interest in public affairs shown from the beginning by Harvard and Yale. Even a foreigner, if he looks below the superficial, can hardly fail to discover what admirable results have followed from the voluntary principle, what generous gifts have been made, what large incomes have been secured, what excellent libraries have been brought together, what observatories and laboratories and museums have been provided, what contributions have been made to literature and science by teachers and graduates, what excellent citizens have been trained up for the service of church and state, for the maintenance of religion and patriotism, and for the diffusion of knowledge throughout the land.

Before proceeding to discuss more in detail, in the presence of this international congress, the condition of American universities, it may not be amiss for us to pause and consider what are the legitimate functions of all universities; for amid the diversities of origin and the differences of administration it is probable that we recognize unanimously four functions that pertain to every vigorous establishment. I do not mean the maintenance of four faculties. The number of departments in a university may be numerous, or the teaching force may constitute a single faculty; or there may be a faculty of philosophy leading up to professional schools, or coördinate with them, or a sharp distinction may be maintained between science and letters. These are municipal distinctions, dependent upon traditions and ideas not universally accepted; but the functions to which I refer are general.

The first function of a university is the education of youth who have been prepared for advanced work by previous discipline in certain branches of knowledge. Whatever else the university undertakes, it is a place where the choicest minds receive the best culture, are admitted to rare opportunities, and inspired by living examples of intellectual excellence. It is a society where thorough preparation for intellectual exertion is the condition of admission, and lofty devotion to ideals the condition of honor. The university to which no students resort, or in which the commonplaces alone are taught, is unworthy of the name. In the long run, the men who have been trained by a university are the tests of its excellence.

University education as distinguished from collegiate implies that the student has formed already the habits of attention, memory, discrimination, classification, judgment. Maturity of mind is requisite for the freedom implied in advanced work. This training in our country has usually been acquired in college; formerly it could only be there received. But high-schools, academies, and private seminaries in many places are now so thorough that they have virtually taken the places which early in the century were held by the colleges, and the colleges, by raising their terms of admission, have occupied the years which might otherwise be given to university work. Consequently there is no agreement of opinion on the relative spheres of the school, the college, and the university. It would be well if Americans could agree on the proper limitations of the school and the college. Doubtless when a report is received from the Committee of One Hundred, appointed by this association, under the head of President Eliot, we shall have a discussion as fruitful as it will be lively of this fundamental question.

The second function of a university is the conservation of knowledge. This is accomplished by bringing together all the records of human experience, and by the engagement of scholars in the work of interpretation. The university should be in truth a seat of learning. Within its walls there should be comfortable stalls for those who are willing to devote their lives to the study of antiquity, whose pleasure it is to trace from their origin the language, the laws, the religions, the customs which we have inherited from our remote ancestry. There should be other chairs for those who are able to collect, arrange, describe, and interpret all natural objects which can be brought together in a museum. The fine arts, too, should have their votaries, and the best that the world has produced in architecture, sculpture, and the pictorial arts should be presented to the eyes of impressionable youth, with such instruction as will enable them to discover and appreciate the merits. Libraries and museums are the dwelling-places of universities.

The third function of a university is to extend the bounds of human knowledge. Call it research, call it investigation, call it scientific inquiry, call it the seeking for truth—never has the obligation been so strong as it

is now to penetrate the arcana of the world in which we dwell, to discover new facts, to measure old phenomena, and to educe principles and laws that were written in the beginning but have never yet been read by mortal eye. Instruments of accurate measurement and for close observation are now at command that were unthought of in the past generation. That protean agency, the lens, has been enlarged and supplemented so that its efficiency has increased simultaneously with its adaptation to new purposes. Measurements are applied to the depths of the sea, the distances of fixed stars, the velocity of light, the intensity of electric and magnetic currents, the reactions of the nervous system; and facts which were once vaguely known, become clearly and accurately understood. To the progress of observation, measurement, and experiment, universities that are worthy of the name are bound to contribute.

The fourth function of a university is to disseminate knowledge. The results of scholarly thought and acquisition are not to be treasured as secrets of a craft; they are not esoteric mysteries known only to the initiated; they are not to be recorded in cryptograms or perpetuated in private note-books. They are to be given to the world, by being imparted to colleagues and pupils, by being communicated in lectures, and especially by being put in print, and then subjected to the criticism, hospitable or inhospitable, of the entire world. That institution has a restricted sphere that is unknown beyond the circle of its own alumni. It should not claim to be a university. It is better to be the best of colleges than to be the worst of universities. Publication should not merely be in the form of learned works. The teachers of universities, at least in this country, by text-books, by lyceum lectures, by contributions to the magazines, by letters to the daily press, should diffuse the knowledge they possess. Thus are they sowers of seed which will bear fruit in future generations. One of the greatest of living naturalists has said that he was attracted to the study of natural science by the lectures of Silliman; one of the most honored of university presidents has acknowledged that a speech of Francis Wayland's aroused him to a life of public service; and the philosophical educator to whom this congress owes so much has shown in a recent volume how much he was quickened by the conversation of a peripatetic from Concord. The widespread demand for university extension shows how intelligent persons, who for one reason or another have never received the advantages of university residence, are eager to get at the latest, the wisest, the most accurate instructions that can be brought within their reach. But learned publications, containing memoirs that are only meant for the scholar—positive contributions to knowledge—are the noblest fruits of academic culture.

These, then, are the tests of a university: the service it renders in the education of youth; its skill in the perpetuation and interpretation of the lessons of history; its endeavors to extend the domain of science;

and its readiness to promote the diffusion of knowledge. Science, another name for truth, is its goal ; Imagination, or a vision of the ideal, is the allurements ; and Faith is the encouragement—faith in law, faith in man, faith in God.

In order to understand the organization of American universities, the foreign observer must be reminded of their origin. The colonists desired and established simple "colleges," corresponding closely with the colleges of Oxford and Cambridge. Harvard, Yale, Columbia, and the University of Pennsylvania belonged to this type. Upon this stem, which was firmly rooted at the beginning of the present century, professional faculties were afterward grafted. Such institutions, in their beginnings, were more or less religious foundations, and they still bear the traces of their birth.

Since the Revolution, State universities have been established, notably in the Southern States (where the University of Virginia bore the impress of Jefferson's familiarity with continental rather than British antecedents), and subsequently in the Western States, where large amounts of public lands were set apart for their support. A third class of institutions are those which owe their existence to some great benefactor, like Cornell, Johns Hopkins, Leland Stanford, Rockefeller, who has provided the endowment and indicated more or less definitely the conditions by which the administration shall be governed.

Recently there has been a return to ecclesiastical activity. The Catholic University and the Methodist University in Washington ; Sewanee, and the University Board of the Protestant Episcopal Church, are indications of denominational zeal.

Since the civil war, institutions devoted to pure and applied science have been successfully established, largely though not wholly as a consequence of the Morrill act and its supplement. Sometimes these new foundations have been incorporated with universities, as the Sheffield School is a part of Yale University, and sometimes they have been independent institutions, like the Massachusetts Institute of Technology ; but in either case they must be included in any survey of higher education.

The actual workings of these five groups, however varied their origin, are very similar. Of course, they are more or less perfectly developed ; some have but one faculty, and some have several. That which has an income of one or two hundred thousand dollars is very different from that which annually expends a million ; and two centuries or thereabouts of tradition and experience form a very different basis from a charter of to-day. Nevertheless, the family likeness is strong. Our educational institutions are decidedly American. Not one of them can be or would be a German or an English or a Scotch or an Irish university. Suggestions, ideas, are welcomed as germs from other lands, but the plants grow

up in our own soil and are the result of our laws, traditions, and wishes ; they are like the vines of California, which bear the old names but produce a vintage with flavors of its own, not yet familiar to European palates, but pleasant and wholesome.

In all these institutions the idea of liberal education has been preserved. The best of the technical schools provide generously for instruction in languages, and most of them for instruction in abstract science as well as in its practical application. The traditional notion of a college training antecedent to professional courses, and preliminary to advanced work, holds its own ; and indeed it seems to gain support by the emphasis that is given to the dividing line between undergraduates and postgraduates. There are many open questions as to the period of life which should be allotted to college studies, the proper terms of admission and graduation, and the adjustment of freedom in the choice of studies with the obligation to choose wisely. But amid all the dissensions upon minor points, it is clear that the love of college life is growing ; its methods are improving, and its relation to professional and technical pursuits and to careers in science and literature is more and more clear.

There are many unsolved problems in respect to university education in this country to which we may well direct our attention. Among them I mention, first, the establishment of a university in the Federal city. The opinions upon this subject may thus be grouped. There are those who advocate the endowment of a national university by the government, and consequently its administration by such boards as the government may institute. In support of this principle, eminent authorities may be quoted from Washington to our own contemporaries. This view is vehemently opposed by those who dread the enlistment of Congress in services which it is claimed pertain to the separate States and to private individuals. Meanwhile the Catholics and the Methodists have initiated universities and are acquiring the requisite funds for their maintenance. Other religious bodies are likely to follow their example, and it is not impossible that there will soon be a group of institutions in Washington representing the principal Christian sects. There are those who claim, with much force, that the charter of the Columbian University would be an excellent basis for a national institution, and that money alone is requisite in order to secure the highest efficiency. Still, again, there are those who believe that an independent foundation by private donations will be more successful than any form of political or ecclesiastical endowment. Perhaps the problem would be simplified if the idea could be eliminated that a university in Washington must of course be a place for the systematic education of youth, and for the bestowal of academic degrees. This is indeed a usual function of American universities, but it is not essential. If the university in Washington could be so ordered that all the scientific resources of

the nation were available for study, under the guidance of competent persons, without reference to honors, and without formal and prolonged curricula, very many well qualified scholars—some who have graduated and some who have never been in college ; men and women ; foreigners and Americans ; some in early and some in later life—would there be gathered, and would be aided, taught, inspired by the opportunities and influences thrown open to them, in an amplitude worthy of the national capital.

The last word has not been said in respect to the higher education of women. Three views are prevalent. At one extreme are those who would not open the doors of any high school on the same terms to men and women. They believe that the sexes can be taught in a better way in separate institutions. They believe that, through a series of influences extending over many centuries, women in civilized countries—certainly in circles where refinement, education, and religion are prevalent—have been protected from the harsher and rougher influences of the world, and have been relieved from burdens which their fathers, brothers, husbands, and sons have been, as a rule, most willing to bear. To those who dwell upon this aspect of the question, absolute coeducation seems to be a retrograde step. It may, however, be conceded that ere long, perhaps henceforward, women are to have equal advantages with men in the pursuit of advanced education ; and it is certainly demonstrated that their powers of acquiring knowledge are equal to those of men.

At the opposite extreme are those who claim that women will equal men, if they have an opportunity, in the professions of law, medicine, and theology, and in scientific and literary pursuits ; that many are now prepared for and eager for university opportunities ; and that it would be a waste of force, even if it were practicable at the moment, to duplicate such foundations as are open to men. To those who hold these opinions, coeducation seems essential.

Between these extremes another view is held. The intermediates would open to both sexes the advantages of university instruction, but would do so under such arrangements as will secure to women the supervision and counsel of women, as to men the supervision and counsel of men. The experience acquired in the colleges for women associated with the universities of Cambridge and Oxford, and in our own country the remarkable success which has attended what is called the Annex of Harvard University, indicate to many the solution of the problem, unless, indeed, around such a foundation as Bryn Mawr or another woman's college the not impossible nor undesirable university for women should be developed.

In comparison with the subjects already named, it may seem that the question of residence in a university is of very slight importance ; but is this true in places where the education of youth, the development of character, and the formation of moral, mental, and social habits are deemed

of prime importance? Poverty, indifference, and inattention seemed to have governed our usages hitherto. The original colleges brought hither from England the notions of a master's residence, a chapel, a common dining-hall, and lodgings over which the tutors exercised some supervision—arrangements which fascinate every visitor upon the Isis and the Cam. But for some reason these usages degenerated in this country. The halls of residence have become "dormitories," open to the outside world by night and by day, without any tables or refectories.

Commons were so badly managed that bread-and-butter rebellions were sometimes resorted to for relief, and commons were given up. The reaction has begun, certainly at Harvard and Yale. The evils that were attributed to dormitories, rightly or wrongly, led many of the newer institutions to abandon their use, or to refrain from introducing them. In recent times in many places fraternities supply their members with the comforts of private houses. In many places there is no general provision. Yet one experiment remains to be tried: the establishment of a hall of residence which shall be to the university what a college is to Oxford and Cambridge, a hotel, with a scholar and his staff at the head of it; with privacy, comfort, oversight, and intellectual guidance; where visitors may be received and entertainments may be given, but where the dominant pursuit is study, the society restricted to men of intellectual pursuits. Probably the next stage in the development of college residences will be a modern home for students, with many of those charms which made conventual and subsequently collegiate life attractive, but with modern sanitary improvements, and modern comforts of a substantial but not of an extravagant character.

In the future some dangers are apparent. The spirit of rivalry, sometimes latent, sometimes avowed, threatens to restrict the usefulness of our higher institutions. These powerful agencies for good should maintain their solidarity, solidarity of purpose and of influence, solidarity in the discovery, maintenance, and diffusion of the truth; for the fields of research are as infinite as the heavens above, the needs of human society are as varied as the lessons of human experience, and the youth qualified to profit by higher educations are more numerous than the throngs who frequented the lectures of Abelard and the schoolmen, before the discoveries of Faust and Schoeffer. In every aspect of the harvest there is enough and to spare. It is therefore as needless as it is foolish to engage in such rivalries as ought to be restricted, with the use of sensational advertisements, to the venders of patent medicine and the managers of dime museums. When all our strong universities do their utmost, the work of education and of investigation will only be half done.

There is reason to fear that the distinctive "college" will be disprized, as technical schools increase in numbers and in excellence, as professional

schools show their readiness to fill up their benches with scholars who have never had a proper preparation, and as permission is granted to anticipate during an undergraduate course those studies which are properly reserved for those who have taken their first degree in arts. The tendency to undervalue the American college is also shown by a disposition to offer graduate, advanced, or university courses in places where the forces are only equal, perhaps are barely equal, to the work of a college. The most critical questions respecting higher education are now to be found in the college domain. I can only state them, leaving their discussion to others. What are the proper conditions of admission? Has it been wise to increase the requirements, so that the ages of college students at entrance are now almost synchronous with the age at graduation in the early part of this century? By what method can the elective system be so regulated that every student shall be rightly guided in his choice? Ought not greater emphasis be given to the old idea of a liberal education intermediate between that of the preparatory school and that of professional and technical schools?

In respect to publications, there is this cause for complaint. Within the last few years scores of new journals have been begun, bearing the names of the institutions in which they are issued. Many of them have a very limited circulation. Articles of merit which appear in their pages are in danger of the greatest of horrors—burial alive. They are only printed, not published. Many of them occupy the field of other journals elsewhere published. There are no general indexes or reviews or year-books which collate the contents. It is extravagant for individuals, it is troublesome for libraries to take in all these journals. Where they are received, they are liable to remain unread, perhaps uncut. All this belongs to the exuberance of adolescence. There must be a survival of the fittest. Various schemes have been proposed for the accomplishment of a reform, but they are too detailed for discussion here. However, it may not be deemed discourteous to assert this thesis, that an institution does not win so much distinction from serials bearing its name, as it derives from the memoirs, essays, and contributions to science or to literature produced by its faculty, which are read and acknowledged by the leading authorities at home and abroad. A scholar in the most obscure village in the country may light a fire or discover a jewel which will give him position everywhere; but he must put his candle in a candlestick, and his jewel must be mounted that it may be seen. He must not merely print; he must publish.

But the prospect of dangers does not detract from the pleasures and excitements of the voyage, or from the belief that there are regions rich in gold and wheat, in ivory and peacocks, yet to be visited by our caravels in lands beyond the sea. The universities and colleges of this country are

the hope of our future. Those who profit by their advantages, as a rule, will be found taking the right attitude toward all public questions. The more liberal their education and the more wise their teachers, the surer are they to be found on the side of liberty and good government, the more steady will be their resistance to that conservatism which is afraid of progress, and to that radicalism which heeds not the voice of history. The day will come, if it has not already dawned, when professors of law will be taken from our universities for arbitration and counsel in questions affecting the peace of nations ; when men of letters, or at least of academic culture, will be sent, as the best representatives of the American people, to the most cultivated courts of Europe ; when the students of finance will be asked to leave their chairs of instruction and assist the officers of government in disentangling fiscal problems ; when the missionary, trained by his linguistic discipline for the mastery of oriental tongues, shall become the interpreter and introducer of western ideas into eastern countries ; when men of science will be more and more relied on in the solution of the world problems pertaining to life and force ; when philologists will interpret the texts upon which theologians will base their creeds ; when the daily press will more and more readily open its columns to the matured opinions given out by learned men ; and when the barriers (slight and transitory barriers, we may well believe) which have grown up between the common schools and the universities will disappear from every part of the country ; and when knowledge, accurate, scientific, comprehensive knowledge, will be regarded not only for its own sake but as the parent of wisdom and virtue. Am I speaking of the future or of the present ? Has not the day of universities dawned ? Have not our higher institutions won that position that entitles them to the confidence, the admiration, and the support of all the American people ? These five contributions they will make to our civilization :—Science will take the place of empiricism ; the power of sustained effort will be augmented ; good government will be established ; encouragement will be provided for men of rare intellectual qualities ; and the noble enjoyment of leisure will be assured.

HOW FAR IS IT DESIRABLE THAT UNIVERSITIES SHOULD BE OF ONE TYPE?

BY PRESIDENT MARTIN KELLOGG, OF THE UNIVERSITY OF CALIFORNIA.

It is a time of rapid expansion in our leading institutions of learning. No one of them is content with its offered facilities and its present endowments. Every one of them is working on some theory of further development. There are two theories of university development :

First, As rapidly as possible to occupy every province of knowledge and instruction.

Second, To aim at special excellence in certain portions of the field.

Each of these theories has its exponents in this country. But the great majority of American universities seem to have adopted the first of these theories. In general, we may say that that is our American idea of university development. Nearly every university is trying to box the educational compass. It aims to do, sooner or later, and as soon as possible, what would be demanded of it if it were a single national institution. It would equal or surpass the complex of faculties at Paris and Berlin. It would emulate the glory of England's twin capitals of university life. Our universities are attempting to combine the full heritage of the past with all the new and ever-growing exactions of the present. Every one must have the full range of classical learning, for those who still believe in the old masters of civilization. It must add a knowledge of the chief languages and literatures of modern life. It must follow the lines of ancient and mediæval and modern history. It must discuss the governmental theories and practice of all civilized nations. It must scan their ever-varying systems of philosophy. It must deal with the protean shapes of so-called sociology. It must pay much attention to the higher mathematics. Then the half has not been told. The natural sciences challenge a foremost place in every advanced institution, and claim, year by year, new foundations for special investigations. Their pursuit is costly, and adds enormously to the demands made on university funds. Special graduate studies assume new importance both in science and in literature, making necessary a multiplication of investigators and teachers and an increase of appliances for advanced research. With the exception of theology in the State universities, schools for the old professions must be maintained, and schools for many new professions. The calls for expansion are practically unlimited for every university working on this American system.

That the evils of this procedure are not more fully realized is only because our American experiment is so new, and its results still inchoate. Local pride and personal ambition have fostered boundless hopes. Our young communities have not yet measured themselves by the highest standards of a universal culture. They do not realize the magnitude of the task they have so bravely undertaken. They forget how many are the provinces to be occupied, how rapidly these provinces are multiplying. If a university could be fully equipped to-day for the whole round of knowledge, the swift-coming to-morrow of time would leave it in the background. But to-day finds no such assured foundations in our land. With the richest, demand for increased resources far outruns supply. The needed crop of great men, as investigators and teachers, will not spring from the mere sowing of gold. There will be no university which

in the next generation, at least, will achieve full and symmetrical pre-eminence on every possible side of university work. So unsatisfactory is the first of our two theories of university development; so sure, in almost all cases, to lead to disappointment and partial failure.

Let us suppose the other theory to prevail, the theory which asks for special excellence in certain portions only of the wide field of knowledge. No university would in that case abandon advantages already gained. No one would cease to aim at a general understanding and presentation of the learning and science of the age. Ambition to impart what is already known is as important as ambition to enlarge the boundaries of knowledge. Said a college president in this State: "You are eager to discover new truth; I am eager to develop new minds." No narrow lines of instruction should satisfy the aspirations of any university or college faculty. But it is equally imperative to add to the sum of knowledge. Investigation is the watchword of the highest education. What Professor Hale calls creative scholarship is the stimulus needful to infuse fresh life-blood; it is the prize which brings the choicest fame.

For such productive work, is it not clear that special and limited ambitions are better than a general, all-embracing ambition? So long as a university insists on a full and symmetrical development, it will think more of strengthening its weak sides than of making its strong sides stronger. But when it accepts large limitations, it will give its chief energies to its most successful work. The circle of knowledge is growing on every side, pushing its radii into the surrounding ignorance. Where will the push be hardest? Certainly where the greatest force is expended in a single direction. Any university, not cosmopolitan in equipment, can most enlarge the boundaries of knowledge, most increase the light of truth, by concentrating its energies on a few lines of investigation. If it is good for one man to have a hobby—I use the word in a higher sense than Dr. Harris does; I mean by it a worthy specialty, enthusiastically followed—it is good for a university faculty to have an assortment of hobbies. The individual worker finds a narrow choice essential to success; the university can make many more choices, but it, too, is under the law of limitation. There is a *genius loci* in all our American foundations. It breaks forth in university competitions; it shows itself in the celebration of public events; none the less does it direct the patient work of the laboratory and the classroom. It *makes* the great men of the university; and no university has enough of its great men to deal with all the vital branches of knowledge.

So, for the sum total of beneficent results, it would be better that our universities should have each its peculiar aims, and that all should differ in their lines of excellence. We have already a few examples; there are universities which have taken themselves out of the procession, and trodden separate and more distinguished paths of their own.

It is no small recommendation of this theory, that, if generally adopted, it would lessen, if not extinguish, a certain ungracious competition. Universities which range equally the whole field of the higher education are really rivals. With aims essentially the same and alike unbounded, they are tempted to make numbers the test of eminence, and to canvass the whole country in order to swell their numbers. The competition is sometimes sharp. There is also a shame at being outclassed in any one line of progress. A university seeing superior inducements elsewhere, in any important study, forthwith strives to make up the deficiency. If one leading institution makes a new departure, and establishes a "school" of political science, or philosophy, or biology, others strain every nerve to do the same. It is a succession of races, to be run as often as a newcomer challenges the field; and a veritable devil of disrepute is believed to lie in wait for the hindmost.

What if every university should allow precedence to others in certain lines of excellence, and bid them a hearty Godspeed in their own peculiar work? It could at the same time strengthen its own strong redoubts, make more sure its own acknowledged preëminence in some field of its own, and receive reciprocal congratulations. I can imagine so healthy a tone of university fellowship, so complete a comity of intercourse, that the Apostolic injunction to individual good men would be realized by the aggregations of good men in university faculties: boasting would be excluded, and in honor they would be ready to prefer one another; yet abating no jot of effort in developing their own several departments of honorable and useful work.

This comity should extend so far that a student with special wants, who could do better elsewhere, would be advised to go elsewhere. That is not, I am glad to say, a mere stretch of imagination. I have known such cases of honest advice.

Such an interchange of students would lead—would it not?—to a fuller recognition of the work done in other reputable institutions. Why should there not be a license of migration, akin to that of the German universities?—not identical with that, but suited to the conditions of our own body of students.

Such a theory of university development would give larger honor and usefulness to many institutions which do not aspire to the name of universities. It is but recently that some of our best universities have been rechristened. They were for a long time colleges, and it was as colleges that they laid all the foundations of their present excellence.

There have been other colleges that gloried in great teachers, like Mark Hopkins. There are colleges now possessing eminent names in their faculties. The want of means or a purposed limitation restricts them to fewer lines of excellence than are possible to the larger foundations of universities. But in their narrower field they may still achieve the most substantial

success. The college professor may conduct brilliant investigations in history, or philosophy, or philology; he may, even with inferior equipment, make a new epoch in some branch of natural science. Chicago's astronomer, Burnham, did much for science before he looked through the telescope of the Lick Observatory. Intensity and genius are no exclusive possessions of the university.

If these views are just, we may say, it is desirable that our universities should be so far of one type that in any one of them the ordinary student will find his needs fully met. In them all the various branches of knowledge should be understood, in their most modern phases. All the most important of these branches should be taught, and well taught, in every university. Or, again, we may say our universities should be of one spirit rather than of one type. A common spirit will stimulate them all to do new and valuable work. A common type is to be avoided, such as must result from the attempt of all to do the same things by trying to do everything. And, finally, every university may most wisely have a type of its own. On its own proper lines of development, it should seek the highest attainable character, imparting freshness and individuality, and giving it a place of distinct, perhaps distinguished, honor in the galaxy of American institutions of learning.

DISCUSSION.

PROFESSOR DAVID FISKE, of the University of Chicago, favored the view that universities should not be of one type, inasmuch as the circle of knowledge is now so vast that it is utterly impossible for any one faculty to encompass it, and that there was no reason why we should not have differentiation in universities as well as special professors in the departments of knowledge.

PRESIDENT CANFIELD, of the State University of Nebraska, thought American institutions had not suffered by following pretty closely after one another, and cited the example of one university which had remodeled and improved its school of history and political science because it was followed up by the pressure of other institutions in the same field; and thus, instead of being let alone, had been forced to develop by the course pursued by other schools of history and political science.

PROFESSOR SPROULL, Dean of the University of Cincinnati, said he was inclined to have institutions specialized. All who had gone through universities in Germany know that students stick to those institutions where the professors are prominent in certain lines. The students accordingly freely change their university from time to time in order to get under the best professor. If there were one institution where the best special training in some one subject could be acquired, it would save time and expense. Professor Sproull, while inclined to favor the specializing of universities, was opposed to the specializing of colleges.

PROFESSOR H. C. CAMERON, of Princeton University, spoke on the difference between the English and German universities, expressing his preference for the German university of four faculties, and his conviction that the older American institutions are working toward the German conception. He did not wish, without further thought, to commit himself fully on the subject.

MR. MELVIL DEWEY, Secretary of the Regents of the University of the State of New York, thought there was need of clear agreement as to what a university was before the question could be satisfactorily discussed, and that a university properly meant an institution for research or special study in any line of human knowledge for those who have completed preliminary work in the elementary schools; that is to say, a four years' course in the academy, and a four years' course in the college.

THE DIVISION OF LABOR IN THE UNIVERSITY.*

BY PROFESSOR GIUSEPPE ALLIEVO, OF THE UNIVERSITY OF TURIN, ITALY.

THE university is the studio of the universal encyclopedia; it is the school of the whole of human knowledge in its complete organization and in its highest ideal. The limitations of individual minds, to which universal knowledge is unattainable, led in earliest times to the division of university learning into distinct and special groups, which, according to the European system, take the names of faculties, such as those of medicine, law, mathematics, theology, philosophy, and letters. Each of these faculties includes within itself several disciplines, which must be followed by all the students who aim at a special degree.

This ancient differentiation of studies, introduced from its origin into the university, was maintained during several centuries. But in course of time, and especially since 1600, the arts and sciences took a really wonderful development, so that in each faculty new branches of instruction were gradually added, in order to keep pace with the progressive development of knowledge. However, the young men enrolled under the various faculties felt themselves more and more powerless to apply successfully the entire material of study included within the limits of each faculty towards acquiring the culture suited to the exercise of that liberal profession to which they aspired. Therefore the ancient differentiation of university studies into a few supreme groups termed faculties, or courses, was no longer sufficient; and the necessity was felt of introducing into each of them new divisions of studies, and of conferring corresponding special degrees. And, in fact, a few changes were made here and there in this sense; but the need of further differentiations increases disproportionately, and while repeated attempts are being made to give to the university a new basis of organization corresponding to the requirements of the time, public opinion is not yet unanimous as to the limits that should be set to this work of differentiation.

While specialization is becoming ever more pronounced in the different disciplines of the university, and also outside of the university in the liberal professions, another kind of scientific movement has become prominent within the circle of higher studies. In the past the study of theoretical science and the routine acquisition of professional skill were one and the same at the university, and young men passed directly from theoretical studies to the practice of their profession. At present, students have made a division of the mental work: on one side the learned, with their pure and disinterested love of their science; on the other the

* Title, *La divisione del lavoro nell' Università*. Translation made by Professor A. L. Frothingham, of Princeton, N. J.

professionals, with their learning practically applied to their specialty. For the first class the university remained ; for the use of the second there arose high special technical schools, separate from the universities.

The ancient university organism has therefore become dislocated. The great school of the universal encyclopedia, displaced from its center of gravity, has become disaggregated into a multitude of special schools dissident and solitary. We are spectators of a double antagonism. The university is at war with itself, for it sees its ideal unity fall to pieces under the blows of an immoderate specialism, which no longer puts any limits to its advance. It is also at war with the special technical high-schools, which, disdaining pure science, shut themselves up, each one, in the idolatry of its own art specialty. In the field of thought, on the one hand, the analytic process has divided and subdivided knowledge into most minute disciplines, to so great an extent that whoever devotes himself to the study of one alone loses sight of the bonds that join it with all the others into a potent ideal unity. In the field of action the liberal professions are becoming specialized beyond all measure, and the students, treating science as a mere handmaid to their profession, obtain from study merely that smattering of theoretic knowledge which is absolutely necessary to them in the practice of their profession, and look no further. Thus, on the one hand the mental exercise of the learned is becoming restricted to narrow and exclusive views, and lacks those broad intuitions, those synthetic comprehensions of thought that discover new horizons in the world of knowledge. On the other hand, the practice of the professionals, no longer illumined, as it should be, by theory, no longer animated by the spirit of the idea, is degenerating into professionalism and being side-tracked into empiricism. This condition of things, which threatens the future of high social culture, is a grave subject for thought for all who have at heart the interest of public studies. In meditating upon this most dangerous fact, in order to ward off its deplorable consequences it appears necessary, first of all, to reach an accord in the following three points :

(1) The division of university work by specialization of the scientific disciplines and the higher schools is a necessity called for by the increased development of knowledge and the progress in the professions.

(2) It is also necessary that the university should retain the unity of its ideal organism, so that it remain for students the universal school of human learning (*scibile*) in its harmonious and synthetic integrity.

(3) It is likewise necessary to maintain the suitable harmony between theoretical study and practical application, between the science and the practice, in order that the disinterested and pure love of truth may not be suffocated by the utilitarianism of life. All three of these points are incontestable. But a double problem at once arises : How can the necessity of the division of labor be reconciled with the unity of the

ideal university organism? How can the requisite harmony be maintained between pure science and professional practice in the high special technical schools? With respect to the first part of this problem, it should be borne in mind that the university is the temple of pure and universal science, the school of the human encyclopedia—that is, of all the disciplines coördinated in a systematic unity. This conception leads me logically to propose two courses, obligatory for all students, to whatever faculty or course they belong; that is: (1) A chair whose object is the encyclopedic classification of the sciences (of which Ampère gave a magnificent attempt in his "*Essai sur la philosophie des sciences*"), conceived in such a way as to show the logical connections of all the disciplines; (2) a chair whose object is protology, or the study of the supreme and universal principles of all sciences.

Attacking the second part of the problem, guided by the same conception, I would suggest two other courses, obligatory for all students of the various special technical schools; that is, the creation of a chair of special philosophy related to a certain group of sciences (for example, the philosophy of mathematics, the philosophy of medicine, the philosophy of jurisprudence, etc.), and a chair of logic considered as the supreme legislative science of thought. It is self-evident that the purely doctoral and honorary degree should be preserved, as that which attests the disinterested and pure love of truth sought for its own sake, without regard to the immediate and low utilities of life.

I must remain satisfied with having barely proposed these measures, as the limits assigned to this paper make it impossible for me to develop my idea as it should be developed. However, this argument of the division of labor leads me to this other problem, Whether, and within what limits, woman also can take part in university studies. The different temper of mind and of body given by nature to man and woman appoints for them a diverse social mission, and therefore requires a correspondingly different education. (Of this I have spoken in my work, "*Studi Antropologici, l'Uomo ed il Cosmo*," and also in my "*Studi pedagogici*.") From this impregnable principle of physiological science and of psychology, it follows logically that it is not in conformity with reason that young men and women should follow the same university course, and I am of the opinion that only those courses of study are suited to girls which prepare them for the career of teaching and education.

SHOULD AN ANTECEDENT LIBERAL EDUCATION BE REQUIRED OF STUDENTS IN LAW, MEDICINE, AND THEOLOGY?

BY PROFESSOR WOODROW WILSON, OF PRINCETON UNIVERSITY.

[Professor Wilson first read the following letter from Professor James Barr Ames, of Harvard University, and then continued the discussion of the above subject:]

No one, I assume, thinks the time has yet come, if indeed it will ever come in this country, for us to imitate the Germans and make the college and the university professional school the only avenue to professional life. I should certainly be opposed to any legislation making either an academic degree or a university professional degree a prerequisite to the practice of any one of the three old professions.

But whether a university professional school should, by way of improving the quality of its students, insist upon an academic degree from a college in good standing as a prerequisite to candidacy for its own professional degree, is an altogether different question. To one who believes that we must look to the voluntary action of the universities for the elevation of the standard of professional education, this question admits of but one answer. Every university, in its own interest as well as in behalf of the community, should, as soon as reasonably practicable, treat the degree of Bachelor of Arts, Literature, Science, or Philosophy as an indispensable condition of receiving the higher professional degree. The university would in this way not only improve the quality of the professional schools; it would also help the college, by throwing the whole influence of the professional schools in favor of a college education.

The desired result must, of course, come about gradually. The oldest and richest of American universities has not yet adopted the policy here advocated in all its departments. College graduates alone can receive the Harvard degree in theology. The same will be true of the degree in law after the academic year 1895-96. The faculty of the medical school would like to adopt a similar rule, but the percentage of college graduates among its students is still so small that it is not thought wise to incur the risk of a large reduction in the numbers of the school.

Two other considerations should be kept in mind. The principle here urged does not exclude from the professional schools those who are not college graduates. Those who pass the moderate entrance examinations may be admitted as special students and receive the benefit of the instruction. The professional degree alone is denied to them.

Secondly, much might be said in favor of a still further concession to special students of unusual ability, who have been deprived, through no fault of their own, of the advantages of a college education. It might be provided, as is the case under the recent legislation of the Harvard Law School, that a special student who resided at the professional school for the full course, and who obtained a mark within five per cent. of that required for the honor degree, should be entitled to receive the professional degree. These exceptional cases would, doubtless, be very few, but the concession would remove all objections on the score of hardship. I should hope that this exception in favor of special students would be only a temporary expedient, and that eventually the degrees in law, medicine, and theology would be given on the same terms as the Ph.D. or S.D.

This would give definiteness and coherence to our universities. The American university would be neither the English nor yet the German university, but an institution *suu generis*, the natural outgrowth of our peculiar conditions.

Respectfully submitted,

JAMES BARR AMES,
Harvard Law School.

WE shall, I think, escape entanglements if we note at the very outset the twofold aspect of the subject. It may be discussed (1) from the point of view of the individual who is seeking professional instruction as a means of gaining a livelihood, or (2) from the point of view of society itself, which must wish to be well served by its professional classes. The community will doubtless be inclined to demand more education than the

individual will be willing to tarry for before entering on the practice of his profession. To which shall we give greater weight, the self-interest of the individual or the self-interest of the community? The community, if it be wise, will be anxious to see practical knowledge advanced all along the line; will wish the physician to be something more than an empiric, capable himself of sure-footed search for the origins and determining conditions of disease; will desire to find in the preacher something larger and more generous in temper and endowment than dogmatism—even the liberal spirit of a serious and withal practical philosophy; will look for dignified parts of learning in the lawyer, something better than practical shrewdness and successful chicane, a capacity to rise at need to the point of view of the jurist, as if aware of the great and permanent principles of large-eyed justice. The average individual, on the other hand, will be eager to make his way as rapidly as possible to business; and when once business engagements begin to press upon him, his thought will adjust itself to them. If the habit of carrying special cases up into the region of general principles—where alone the real light of discovery burns—be not formed during the period of preparation, it will hardly come afterward, when the special cases crowd fast and the general principles remain remote. Only the pastor has any leisure then for the higher sort of study, and even he is not likely to begin it then if he has never known before what it is and what it may do for him. The old women, and the young, will prevent his becoming studious if he be not already a confirmed student, safe in “his pensive citadel.”

An antecedent liberal education, it must of course be admitted, does not necessarily disclose general principles; is too often so *illiberal* in its survey of subjects as to leave upon the mind no trace of the generalizing habit. But usually it is liberal, at any rate, in being general; and, without a survey of the field of knowledge, a various view of the interests of the mind, it is hard to see how a man is to discern *the relations of things*, upon the perception of which all just thought must rest. It is something simply to have traversed many fields of thought, to have seen where they lie, and how surrounded, with what coasts, what natural, what “scientific” boundaries. It is something to have made “the grand tour,” even under indifferent tutors; something to have had a *Wanderjahr*, if only to see the world of men and things. A man who has not had an antecedent liberal education can certainly never get a subsequent equivalent; and, without it, he must remain shut in by a narrow horizon, imagining the confines of knowledge to lie very close about him on every side. Such is the “practical” physician, lawyer, or preacher who now rides us like the Old Man of the Sea, monarch of his little isle of expert knowledge until we can drug and dislodge him.

The world woke once, in that notable fifteenth century, to find itself standing in the clear dawn of the New Learning, and the light which then

came has never since been taken away. But we have played tricks with it ; we have defracted it, distinguishing the lines of its spectrum with an extreme nicety exceeding that of the Rowland grating, and so have brought upon ourselves a New Ignorance. In our desire to differentiate its rays we have forgotten to know the sun in its entirety—its power to illuminate, to quicken and expand. Knowledge has lost its synthesis, and lies with its colors torn apart, dissolved. That New Learning, which saw knowledge whole, shattered the feudal system of society ; this New Ignorance, which likes knowledge piecemeal and in weak solution, has created a feudal system of learning. There is no common mastery, but everywhere separate baronies of knowledge, where a few strong men rule and many ignorant men are held vassals—men ignorant of the freedom of more perfect, more liberal knowledge. We need a freer constitution of learning. Its present constitution only makes it certain that we shall have disorder and wasteful war. To come to the matter immediately in hand, see to how many subjects the student of medicine must turn if he would master his single practical art. It is impossible he should understand the physical life of man without understanding the physical life of the universe. He may not wisely stop short of the widest ranges of biology. And yet the physical life of man is made distinctive, after all, by his singular mental life. He may imagine himself into distemper and disease, and the physician will lose trace of causes of great moment to his own art if he know nothing of the laws of the mind—of physiological psychology not only, but of pure psychology too. He cannot get this range of knowledge in the medical school ; he must get it from an antecedent liberal education ; and it will be sheer misfortune for him, even as a practical man, if that antecedent training bring him not out upon a plane of knowledge, a vantage ground of outlook and command, higher even and more invigorating than these special fields of science. The student of theology, it will be admitted, is but a poor pretender if no serious survey of other subjects precede and accompany his direct preparation for the ministry. He, of all men, must understand mankind if he is to lead them into better ways of living and to a death of hope. And how can he understand modern society without a knowledge of the scientific standards and conceptions that condition all modern thought ? How can he understand any society without knowing aught of philosophy or politics or economy ? He will never reach any motive unless he learn to read men and their life.

The student of law, too : what can he know but the forms and the tricks of the law if he know nothing of the law's rootage in society, the principles of its origin and development ; how it springs out of material and social conditions which it is the special task of economy and political science to elucidate, out of elements which run centuries deep into the history of nations ? No mere technical training can ever make a first-rate lawyer. Observe, I do not say jurist—that, of course. I say that no

first-rate lawyer can be made by merely technical training, no lawyer of mastery and real resource. General principles learned *memoriter* are as useless for mastery as precedents learned *memoriter*. No man shall command them who does not know whence they came, and what like occasions must be made to yield new principles alike to bar and bench. Such is the practitioner who is armed *cap-a-pie*, to be feared by every opponent in the mere matter of winning cases. How shall a man who knows nothing of history, of economics, or of political science ever know more than the technical rules of the law, which must for him be rules dead, inflexible, final ?

All this is plain enough, at least to every liberally educated man, and to every one who considers first of all the good of the community and the advancement of the professions. But immediate self-interest, haste to get at the pecuniary rewards of his profession, to make a supporting business of it, will make the individual indifferent to these larger considerations. He is willing to leave the higher reaches of his calling to those who have time to seek them. The physician is content to be a successful empiric, and learn useful practical lessons from his daily experience. The minister is satisfied if he please his congregation by agreeable sermons and still more agreeable pastoral visits. The lawyer does not aspire to be more than an expert in a technical business. As many will go without a "liberal education" as the community will permit to do so. Public opinion does not act imperatively in the matter, because not all of the public, at any rate here in the United States, has made up its mind that a general training need precede professional training. Some communities even seem inclined to boast of their "born" preachers, and their lawyers who have gained admission to the bar after only six weeks' study. There is among us a somewhat general skepticism as to the efficacy of college instruction, and a very widely diffused belief in the sufficiency of natural endowments. And, of course, no one will claim that the colleges give a man all, or even any considerable part, of what he should have by way of equipment for one of the learned professions. All that we can say is that the colleges can give him the point of view, the outlook and the habit of mind, of the scholar ; that, without an "antecedent liberal education," not one man in a thousand will have the studies he ought to undertake so much as suggested to him. His little world will be flat, not round, shut in by an encompassing sea, bounded by the near horizon. A professional man ought to have a liberal education, if only to make him aware of his limitations, careful not to blunder into fields of which he knows that he is ignorant.

The practical side of this question is certainly a very serious one in this country. That there should be an almost absolute freedom of occupation is a belief very intimately and tenaciously connected with the democratic theory of government, and our legislators are very slow to lay many

restrictions upon it. Our colleges and universities, and our law and medical and theological schools have seldom endowment enough to render them independent of popular demands and standards. They are wholly independent, however, of each other, and cannot be constrained to accept any common scheme or standard. Even if the public had made up its mind very definitely on this subject, no means are at hand to facilitate concerted action. Reform must come piecemeal, and by example; not all at once and by authority. The remedy for the present state of affairs in this country seems to me to lie in resolute independent experiment by individual institutions. Let leading universities and colleges that have or can get money enough to make them free to act without too much regard to outside criticism, first erect professional schools upon a new model of scholarship, and then close the doors of those schools to all who have not a first-rate college training. It would not take the country long to find out that the best practical lawyers and doctors and preachers came out from those schools—and the rest would be discredited. I believe that no medical or law or theological school ought to be a separate institution. It ought to be both organically and in situation part of a university, a university big and real enough to dominate it. It ought to be permeated with the university atmosphere; it ought to employ university methods; it ought itself to exemplify the liberal spirit of learning. It would do little good to the professions to send only college graduates to many of our separate professional schools. They would find nothing but empiricism there. To nothing there would their college training seem applicable. It is useless, too, to try to reform these separate schools as they stand. Build a university over them and extend the university faculty into them, and they may be made to your mind; but do not dream of making them like universities in spirit, method, thoroughness in any other way. When universities put students trained in chemistry, biology, and psychology into their own medical schools; students drilled in history, in economics, in philosophy, and in the natural history of society into their law schools; students informed in the various thought of the age and read in the literature of all ages into their schools of theology, the country will begin to be filled with real lawyers, capable physicians, powerful preachers once more, and these great professions will once again deserve the name of learned professions.

The separation of general and special training is an acute symptom of the disease of specialization by which we are now so sorely afflicted. Our professional men are lamed and hampered by that partial knowledge which is the most dangerous form of ignorance. I would no more employ a physician unacquainted with the general field of science than I would employ an oculist who was ignorant of the general field of medicine. Knowledge is trustworthy only when it is balanced and complete. This is the reason why the whole of the question we are now considering is a

university question. Knowledge must be kept together ; our professional schools must be university schools. Our faculties must make knowledge whole. The liberal education that our professional men get must not only be antecedent to their technical training ; it must also be concurrent with it.

No more serious mistake was ever made than the divorce of technical or practical education from theoretical, as if principles could be made use of and applied without being understood. It is, indeed, true that a locomotive driver may handle his engine with dexterity and safety without being either a machinist or an engineer, but the body of knowledge of which the physician or the lawyer or the preacher makes practical application is no machine. It is a body of *thought*; it does not stand alone ; it is not even true except in its proper relations to other thought. To handle it requires not only skill, but insight also—a trained perception of relative values, a quick capacity for sifting and assessing evidence. As liberal an education as possible is needed for such functions, if only to open the eyes and accustom the faculties to a nice manipulation of thought. The empiric is the natural enemy of society, and it is imperative that everything should be done—everything risked—to get rid of him. Nothing sobers and reforms him like a (genuine) liberal education.

DISCUSSION.

PRESIDENT GILMAN said : I want to speak of one phase in this matter, that of medical education, because my attention has been particularly called to it. Everybody knows that a medical man ought to be well grounded in everything that pertains to biology, let us say. Now there is a school of medicine to be started in Baltimore. We have started on the principle that nobody shall be admitted to it except those who are liberally educated. That seems very simple ; but how are we going to find out who are liberally educated ? You say the holders of the Bachelor of Arts degree. But on coming to scrutinize a little more closely, we find a great many young men graduate from colleges, and, although they have diplomas, they come from institutions which have not the elements of good education in them. Then, again, we find this difficulty, that many of these institutions which give bachelorate degrees already provide some instruction in physics, in chemistry, in botany, in zoölogy, and physiology, each of which ought to have its own place in a finished medical course. How shall this difficulty be adjusted ? Let us say, then, it shall be those who have taken a bachelorate degree, provided their bachelorate degree includes those items. I expect the result will be that a smaller number of scholars will come, and the question is whether we shall be strong enough to stand it. That is the difficulty in this whole problem. Generally speaking, the more that is done to require an education equivalent to that given by an ordinarily good college giving the bachelor's degree, as antecedent to the study of law, medicine, and theology, the better it will be for the country.

MR. DEWEY thought it would be unwise to forbid men by legislation to practice law or medicine without an antecedent college education, but that a public feeling against professional men devoid of a liberal education could be created by proper stimulation. A help against the admission of really uneducated students to professional schools would be found when the too common system by which the pay of the professor is fixed and his salary regulated by the fee, is done away with. The taking of fees is a constant temptation to admit incompetent students. Take the fees away and it becomes the interest of the professor to shut out incompetent students. Furthermore, the degree-giving power should not be lodged in detached professional schools.

PROFESSOR BAKER, of the University of Colorado, deplored the present state of the admission requirements to schools of law and medicine. More than half of the law schools or medical schools of the country have no standard for admission whatever. Professor Baker adduced cases he had observed of young men leaving the freshman class of college, where they had been unable to maintain any scholarly standing, and starting at once to study law or medicine. There should be no admission to professional schools without at least a complete high-school education. To require the Bachelor of Arts degree, especially if the degree be further improved in value, seems to be requiring too much. Perhaps somewhere between these two extremes will finally be found the solution of the problem—that is, intermediate between the completion of a high-school education and the completion of a college course.

PROFESSOR IMELMANN, of the Joachimsthal Gymnasium, of Berlin, Germany, expressed his satisfaction with the views of Professor Wilson. The question, however, was not an issue in German education, because the union of general and special culture, of liberal and professional training, is in itself the essential point, and perhaps the distinguishing feature, of German universities. Furthermore, the German colleges or gymnasia have the task of giving that general liberal education which serves as the best basis for preparation for admission to professional studies.

PRESIDENT H. T. EDDY, of the Polytechnic Institute, Terre Haute, Indiana, thought there had never been such an interest on the part of the whole community in the subject of universal education; never before had such sums of money been expended for educational purposes in this country. It was important, therefore, to take advantage of this general awakening of interest and see to it that the cause of sound liberal education antecedent to the professional culture should receive its share of benefit in connection with this general awakening.

SHOULD GREEK BE REQUIRED FOR THE DEGREE OF BACHELOR OF ARTS?

BY PROFESSOR W. G. HALE, UNIVERSITY OF CHICAGO.

THE practical solution of this question will, in the case of most men, depend upon their intellectual make-up, and will not involve any larger survey of history than the memory of people in middle life supplies. Yet in order to be prepared to weigh intelligently certain historical arguments that are actually advanced by the disputants on either side, it will be necessary to trace rapidly the origin and later history of the degree of Bachelor of Arts.

Of the four institutions characterized by M. Compayré as the mothers of universities—namely, Bologna, Paris, Oxford, and Salamanca—the second, that of Paris, was founded in 1200. Only eight years later the conception of groups of related subjects appears in the wording of instructions sent to the university by Innocent III., which were addressed to “all the doctors”—*i.e.*, teachers—“of theology, canon law, and liberal arts established at Paris.” About half a century after this, the logical separation of the university into departments began, taking the form not of a single act of organization, but of a setting-off first of one department and then of another from the general mass, the department of arts being finally left as the residue. By the year 1275 the faculty of law, the faculty of theology, the faculty of medicine (the study of which subject

had been introduced at some time prior to 1251), and the faculty of arts were recognized as distinct, and as together constituting the university. The same general system is found in all the universities of the middle ages.

Up to the fourteenth century no formal degree was given. The first approximation to such a degree took the shape of the granting of a license to teach, the *licentia docendi*. The title of "master" or "doctor"—i.e., "teacher"—was not conferred, but was adopted, as a natural expression of his vocation, by the successful candidate.

The word "bachelor," whatever may have been its origin, was at first used to indicate a young student preparing for his examination for the licentiate; or, as we should now say, an "undergraduate."

For some time no test was imposed upon the would-be candidate. But as early as 1275 (the date before which the division of the University of Paris into four faculties had been effected) a regular form of examination, called the *détermination*, had been established at that university. The word is taken from a medieval use of the Latin word *determinare*, in the sense of fixing, settling. The *détermination* took the form of a public settling of a point—i.e., of a public argument, followed by a questioning of the candidate. In the faculty of arts this test was not open to the student unless he had reached the age of fourteen, at the least, and had pursued certain courses through two years, namely (in the University of Paris during the fourteenth century) Aristotle's works on logic (of course in a Latin version), Priscian's "Grammatical Institutes," Boethius's "Divisions and Topics," Donatus's "Barbarism," and the "Six Principles" of Gilbert de la Porrée. Since the passing of this test proved that the successful student had a right to reckon himself among the candidates for the licentiate—i.e., of the *baccalaurei*—the title of *baccalaureus* itself came in time to be granted. In the fifteenth century this title was in full use, and the four degrees of Bachelor of Arts, Bachelor of Theology, Bachelor of Law, and Bachelor of Medicine were regularly conferred by the respective faculties. The status represented by these degrees, it will be observed, was a preliminary or intermediate one.

The studies required for the licentiate in arts,—i.e., for the right to teach at the completion of the course in arts, demand a brief enumeration, from the fact that the requirements for the degree of bachelor came afterward to include them. They were, in addition to those already mentioned, Aristotle's works on ethics, psychology, and physics, together with a hundred lectures on mathematics and astronomy.

In the university antedating the Renaissance, then, the curriculum embraced Greek philosophy, ethics, psychology, and physics (of course in Latin versions), Latin grammar (with little literature), mathematics, and astronomy. All these subjects were taught from dictation, and in what, if we forget the scanty means at the disposal of the professors, and the non-existence of printed books, we might too easily regard as a barren

manner. But the point which we ought especially to note is that two directions of the development of later years, the humanistic and the scientific, were already apparent.

Into these scholastic institutions there came, at the end of the fourteenth century and during the fifteenth, the influences of the Renaissance. The discovery and interpretation of Latin and Greek manuscripts gave new play to the human mind, and created a new wealth of interests. The old course in arts became enlarged. In addition to Latin grammar, Latin literature was studied. In place of the study of one group of manifestations of the Greek mind, namely, in logic, ethics, physics, and metaphysics—and that in Latin translations—all the manifestations of the Greek mind were studied, and that in the original texts. The degree of Bachelor of Arts lost, therefore, nothing of its essential meaning; it only gained a richer significance. In later centuries, also, the degree gained with respect to the other of its two original sides, but it gained more slowly, having to make its way against unjustifiable prejudice. In the eighteenth century the universities were behind the outside world in the cultivation of the sciences. In the further expansion on the scientific side, and in the still later recognition of the importance of the study of modern languages, the curriculum has gained immensely, and the degree of Bachelor of Arts has been still further enriched.

But the process could not go on indefinitely. The growth of modern scholarship made specialization inevitable if the student desired to do any serious work; and the demands of specialization, strengthened by the demand for the adaptation of the college course to the wants of the individual, produced what is known as the elective system. The elective system necessarily affected the amount of time given to Greek and Latin, which now reversed their older process of growth. Some of the subjects by the addition of which the old curriculum was enriched were, however, still kept by the stronger universities, like Harvard, through the pushing down of these or other subjects into the preparatory course; so that it became possible for a student to enter with a good start in Greek, Latin, and mathematics, and with a start not so large in a modern language or in natural science, and then, in his years of elective work, to turn his attention with considerable success to any field in which his tastes had shown themselves to lie. This stage continues to be represented by many of our older colleges. Before this process had reached its logical development within the university, however, the principle of election had been brought down to the high-school curriculum, through the organization in many colleges of four distinct courses, in arts, in philosophy, in letters, and in science; the first requiring Greek and Latin, the second requiring Latin, the third substituting for Latin a considerable amount of modern languages, and the fourth emphasizing mathematics and natural science. Cornell is a notable example of this system. The degrees granted by Cor-

nell, considerable as the temptation must have been to attract students by giving to all of them the time-honored degree of Bachelor of Arts, were Bachelor of Arts, Bachelor of Philosophy, Bachelor of Letters, and Bachelor of Science, for the respective courses. Then the Johns Hopkins University, at her beginning in 1876, and Harvard somewhat later, carried the principle of limited election into the high-school curriculum in another way, requiring *either* Greek or Latin, and not both, but admitting the candidate on the same footing in either case, and giving the degree of Bachelor of Arts. The next step obviously suggested was to admit, and to graduate, with neither Greek nor Latin, but to grant the degree in arts all the same; and this step has been taken by the Leland Stanford University.

Which of these various solutions of the problem is, then, in the light of the history of the degree, the sound one: the requiring of Greek and Latin for the degree of Bachelor of Arts, the requiring of one of the two languages only, or the requiring of neither?

If I have made myself clear in my brief historical sketch, I have shown that, up to the middle of the '70s, the pressure of the scientific side of the curriculum upon the humanistic, and of the new humanistic upon the old humanistic, had not reached a point that made separation necessary. It is my own opinion that this point has not yet been reached, and that it never will be reached; that the educated man can and must still have a general understanding of the aims and methods of both of these sides of human interest; and that by the end of another century the dividing lines will be recognized to be not between classics and science, but between the liberal education, in which both literature, classical and ancient, and pure science will play a part, and the technical education, in which languages and pure science will play a part only as servants of applied science. But if I am wrong, and the point has already been reached, then it seems to me that, just as in the old mass of incompatible studies of the thirteenth century, theology, law, and medicine were parted off from arts, and received different degrees, so, of the supposedly incompatible mass of studies that have come to crowd the course in arts—viz.: those that deal with man, and those that deal with nature outside of man—the latter, which involve a new conception of education, should take their departure from the old course in arts, and devise for themselves a corresponding new degree—which would naturally be the degree of Bachelor of Science.

The growth of the study of modern languages may be thought to call for the setting off of a third scheme of study, with the degree of Bachelor of Letters for the evidence of its completion; and still a fourth scheme might be formed in which philosophy and kindred subjects should be regarded as the principal elements, and for the completion of which the degree of Bachelor of Philosophy would be the proper evidence. These

two schemes, however—though, as I have shown, they do in a number of places actually exist—seem to me to have no justification. Letters, philosophy, history, political economy, social science, and the like are all humanistic subjects; and, even upon the narrowest view, the best preparation for them must always include some study of the literature of the people with whom the record of the intellectual life of Europe and America begins. If, however, these courses are demanded by a public impatient of what some of us regard as wise thoroughness, then, in the institutions which are willing to meet this need, new degrees should be used for their graduates.

It remains to notice briefly several arguments advanced by holders of the opposite view, and then to formulate two considerations—one of them already implied—which I regard as having weight on the side of the retention of the requirement of Greek.

(1) It is urged that changes have already taken place, through the addition of the study of the modern languages, and the increased part which science has come to play in the curriculum, so that the meaning of the degree of Bachelor of Arts is already different from what it was. The answer is that the process has been one of inclusion, not of exclusion; that the course has been enriched, not impoverished. And a further answer, of great force, is that, though changes have indeed taken place, they have taken place by slow and gradual processes, which have at no time made a transformation of the meaning of the degree. Not until the opening of the Johns Hopkins University did any institution lop off at a blow one whole side—even if it were not, as in this case, the side supposed to be the most characteristic—of the significance of the degree.

(2) It is urged that changes have already taken place, in that the elective system has made encroachments upon the amount of Greek formerly required. The answer is that while Greek has gained in quantity at one time and lost in quantity at another, nevertheless a certain amount of it has, until the rise of the present question, remained as the distinctive feature of the degree.

(3) It is urged that inasmuch as a man can even now enter many colleges with little Greek and then drop it—as, for example, at Harvard—Greek forms no serious part of the curriculum, and should therefore not be required for the degree. But the same thing is true of Latin at Harvard, and of mathematics and French and German as well. In fact, there is no fixed requirement at Harvard for the continuance of a study taken before admission, except of courses in English running through three years, and of a course in chemistry, consisting of a single lecture a week for a half of the Freshman year. If, then, this third argument against Greek is sound, it follows that the only set requirement for the degree of A.B. should be English and a short course of lectures on chemistry. This brings one, excepting for the matter of the brief course in chemistry, to the exact

position of the Stanford University, which has no set requirement for the degree of Bachelor of Arts, either after entrance or before, except in English. The position is intelligible, and is approved by many ; but those who, not taking it, would yet give up the requirement of Greek, should look clearly at the inevitable issue of the step they advocate.

(4) A fourth argument is that the essential character of what was best in Greek literature has passed into our modern civilization, so that we no longer need to take time for the express study of it. The answer is that while much has indeed passed into our modern literature, it has had the same fate as Greek architecture, which we see all around us, in monstrous malformations, in the details of domestic and public architecture. What would a school of architecture have to say to the proposition that the diffusion of Greek architectural ideas is so great that we do not need to go back to Greek originals for purity of form and chastened taste ?

(5) An argument thought to have great weight is that it is an evil to multiply degrees. The word "evil" is in any case far too strong. The multiplication of degrees might conceivably go to a point at which it would prove to be an "inconvenience." Up to our own time, however, this has not been the case. The devising of the separate degrees in law, medicine, theology, and arts to indicate a particular kind of training was, on the contrary, a distinct convenience. The devising of the degrees of Civil Engineer and Mechanical Engineer was a distinct convenience. To my mind, the differentiation of degrees to indicate under what kind of educational influences a man's mind has been molded is not an evil, but a good. I sympathize very much with a business friend of mine—a man who finds college graduates of the training of the older foundation to be, in the long run, the most profitable persons to employ in electrical works—who complains that you cannot nowadays tell from a man's degree what kind of an education he has had. It would, to my mind, be far more convenient if we knew that a Bachelor of Science had a foundation mainly scientific, that a Bachelor of Arts had a foundation in good part in Greek and Latin, and that a Bachelor of Philosophy—if people will be satisfied with such a course—had a foundation in which Latin, looked at from the point of view of immediate utility, was required. Far better, then, the reasonable multiplication of degrees to meet new conditions, if they exist, than the confusing of the meaning of a degree long established.

On the affirmative side of the question, on the other hand, the arguments seem to me not to admit of so easy an answer. The most important are as follows :

(1) First, there is the old argument of *meum* and *tuum*. It is on this argument that the whole question really turns. People must not be impatient with us of the older faith. Hackneyed as the argument is, we cannot turn aside from it. The Decalogue is not novel, but we have not outgrown the need of it, and we certainly are by no means yet in a condi-

tion to dispense with that particular article which deals with the question of the rights of property. The degree of Bachelor of Arts has for certainly four centuries carried with it certain associations. It has meant an education essentially founded upon the conception of humanistic culture—of a knowledge of the best that has been thought and said in the world upon the subject of the most interesting of the world's products, man himself. If there are people like myself who, though not conscious of a conservative turn of mind, believe that this humanistic training—enriched, as I have shown it to have been, by the addition of some training in natural science—is, for a good many persons, the best training, then, no matter how old-fashioned and simple-minded we may be, our degree, with the associations which centuries of our way of thinking have woven around it, should be left to us. If a foundation which omits that which is most characteristic of our degree, and replaces it by some of the new studies, is better than the foundation which we believe in, then its advocates should be proud that it should bear the name of these new studies. Not to do this—to demand the use of a degree because of its associations, when, in the very nature of things, the new course would inevitably create different associations—seems to me not merely a plain invasion of vested rights, but a palpable confusion of logic. If the case were reversed, if the dominant studies had for centuries been in natural science, with a corresponding degree of Bachelor of Science, I can hardly imagine that, upon the rise of a demand for a training with a foundation primarily humanistic, people of my way of thinking would insist that we be allowed to use the degree of Bachelor of Science, because of its centuries of associations of a different kind. And this I say, even though there would be some justification of such a demand in the fact that all work in language, so far as it falls within the domain of science, is carried on by scientific methods, and that too large a proportion of us professors of languages are, in our own investigation and publication, men of science, and not men of the humanistics.

(2) The granting of the degree of Bachelor of Arts without Greek leads to a very serious injury to many men. Harvard and Johns Hopkins, in giving up the requirement of Greek for that degree, did not intend that men should be forced not to take Greek, but only that men should not be forced to take it. Yet the inevitable, no matter how illogical, result of this action has been, for young men in countless high-schools in this country, precisely this, that, under the conditions of their life, they cannot get Greek at all. Greek has gone out of many schools on the ground that it was useless to continue to provide instruction in a subject which two great universities no longer regarded as necessary for the degree of Bachelor of Arts; and it has also, for the same reason, stayed out of many schools into which it would otherwise in time have entered. Far better would it be, to my mind, to run the risk that some men who might

afterward prove to have no natural aptitude for Greek should spend a part of their time for two or three years upon a subject which, at the worst, would necessarily give them help in the use of their own tongue and in the understanding and devising of scientific nomenclature, and which would not be without value in forming habits of exact observation and logical inference.

Now I regard an injury done to the study of Greek as an injury inflicted upon the one side of education which our American public, eagerly engaged in commerce and industries, is most likely to disregard, and upon the one side of education of which, without knowing it, it is really most in need. There is no danger that the sciences will not be vigorously pursued in America, at least to the very considerable extent to which their practical applications make it profitable to pursue them. There is, on the other hand, a very natural danger, due to our youth as a nation, and to the immense opportunities which our undeveloped resources afford, that the pursuit of studies more remotely practical will be regarded as a waste of time. Yet the thing which we most need is, not greater opportunities to make wealth, but a higher regard for the things which Greek civilization represents, and which the study of Greek literature and Greek life conveys. We need, in our triumphant Americanism, a good deal more of Hellenism. For a great many men, as I myself believe, the one thing that is best worth knowing well, alongside of our own literature, is Greek literature, and the one spirit best worth comprehending intimately is the Greek spirit.

My own conclusion, then, is that, among excellent examples set us by Harvard University, of whose service to American education I, as one of her sons, am justly and deeply proud, and among excellent examples set us by Johns Hopkins University, to whose guiding spirits American education owes a great debt, the example of granting the degree of Bachelor of Arts without Greek is not to be reckoned.

TELEGRAMS.

I would retain Greek as requisite to the Bachelor of Arts degree.

C. A. YOUNG,

Professor of Astronomy in Princeton University.

Cite me for Greek in A.B. degree.

A. C. MERRIAM,

Professor of Greek in Columbia College, New York City.

Greek has too many and great educational values to be sacrificed. The degree of B.A., usually presupposing Greek, has a history, definite meaning, and commercial value that should not be needlessly disturbed. Other degrees, existing or easily made, should be given for curricula without Greek.

TRACY PECK,

Professor of Latin in Yale University.

LETTERS.

As I shall not be able to be in Chicago this summer, I must miss not only the Columbian Exposition, but also seeing and hearing you. I don't know how much you care about A, B, and C's view on the question of requiring Greek for the A.B. degree, but I shall feel a little easier if I tell you why I still favor such requirement. I can do it very briefly. It seems to me that Greek history, literature, art, and language still stand far enough outside of and away from our modern languages, literatures, and arts to furnish to the mind which busies itself with them that essential feature of culture, viz.: *ἀποδημία*. I grant that Latin and the modern languages and literatures do this to a far greater extent now than they could do it in the times of the Renaissance and of Isaac Casaubon. But only Greek can do this, and is worthy to do this, supremely. The modern languages and literatures are still too near us, too closely associated with our own, too identical with our own in countless molding influences. The Latin can do it, and can do it better now than when Greek first gave Europe its new intellectual birth. But the Latin cannot do it supremely well, because it is too closely woven into the web of our scholastic and literary and intellectual life. The Latinist is not remote enough from the Germanist. And, besides all that, my instinct as a *Quellenforscher* drives me to the Greek because it is the great *Quelle*, as well as because it is a supremely good *Quelle*.

Whatever else I might say or write on this subject would be hardly more than an amplification of this line of argument, and I suppose that even at Chicago in this culminating time, *verb.* will be *sat. sap.*

B. PERRIN,

Professor of Greek in Yale University.

The argument for requiring the study of Greek for the degree of Bachelor of Arts is with me a brief one, because it comes of my personal experience.

The Greek I learned in college has been of immense service to me in my scientific work. I look upon the study of Greek as of far greater importance to the student in science than to those of any of the other professions except the theological. His scientific text-books, and all collateral works that he may study, are full of words of Greek origin, and such words are multiplying with every new advance of science. Greek is really of more importance in this respect than Latin, but Latin is essential, not only for its general contributions to our language, but also because Greek words are usually put into a Latin dress for introduction into English.

By the study of Greek I do not mean study according to the most approved of modern methods, but with less of the refinements of grammar and more of English etymology. I would have each lesson in the translation of Greek a lesson also in the derivation of English words. This could be easily accomplished by requiring at the recitation the stating of the derivations—the more the better—from the roots of words, not compound, that may occur in the passages translated, the student finding them by the use of his dictionaries; and also by asking for an explanation of the present meanings of the words, consequent on their derivation.

By this method of instruction the study of Greek and English would go on together, and in a way that would be profitable to any student, whatever his future profession. Whether the candidate could acquire under this method sufficient Greek before entering college for a degree of Bachelor of Arts I do not undertake to say. He would certainly know more than many college graduates under the existing method, for I have found lamentable ignorance in my geological class as to derivations, even of words that ought to be familiar.

My conclusion is that Greek ought to be required for the degree of Bachelor of Arts. The degree of Bachelor of Science is sufficient for the student that does not make his foundation broad.

Yours sincerely,

JAMES D. DANA,

Professor of Geology and Mineralogy in Yale University.

. . . I cannot, therefore, write at length, although I am ready enough to say that I am in favor of the requirement of Greek in the A.B. course.

My reasons are partly traditional and partly based upon the intrinsic value of the Greek language and literature.

The A.B. course is either for men intending to enter the learned professions, in which case there can be no question of the need of Greek, or for those who intend to enter upon business, etc. In the latter case the value of a literary culture seems to me equally great, and if the foundations for it are not laid in college they never will be.

After all, the great argument in my mind for both Greek and Latin is the value of the literary tradition and the great importance of its continuity. If we gradually cut off the Greek and Roman world we shall suffer in all sorts of ways, and shall fail to hand on to successive generations the sum of the culture behind them.

Yours sincerely,

T. F. CRANE,

Professor of Romance Languages in Cornell University.

I am most decidedly in favor of requiring both Greek and Latin for the degree of A.B. Whatever the aim in life, we all agree that a sound preparatory education is the best means to the end. The first demand we make of such an education is that it give command of our mother tongue and the power to enrich it in the line of our special studies. It is not only facility, accuracy, and elegance in the use of English as it stands to-day, but also ability to enlarge and improve our stock of words that must be considered. This ability to create presupposes a knowledge of the sources, and the sources for the scientist are limited to Greek and Latin.

In the biological sciences these languages are in everyday use, as our whole terminology is borrowed directly from them, and every addition comes from the same sources.

This is, in brief, the ground for my opinion. Of course there are many others which I do not forget, but which I need not here refer to.

Sincerely yours,

C. O. WHITMAN,

Professor of Biology in the University of Chicago.

The degree of A.B. seems to me to mark a man as possessing a certain kind of education, which may not be the best education for the ordinary bright boy who has the best chances in life, but which is at least definite in its method, and has been held so for centuries.

Circumstances have changed greatly in the last century. The study of the classics is no longer of paramount importance. Other sciences must and should be pursued. For many men the study of the modern languages is more important than that of the ancient. But even if the culture afforded by the study of the modern classics is better than that afforded by the ancients, it is not the same. I believe, then, that students who have not studied Greek should not receive the degree of A.B. The advocates of the modern culture, if that is superior to the old, should not seek the degree of A.B. for their followers, but should rather prefer another degree, that the two classes might not be confused, but that the holders of the new degree might receive the higher honor.

This is not the time to discuss the special merits of the different systems, but I cannot see why each should not receive its own degree and its own honor.

Sincerely yours,

T. D. SEYMOUR,

Professor of Greek in Yale University.

It seems to me that the degree of Bachelor of Arts is stripped of its meaning if it is given without Greek. Historically it can mean only that. We have taken the term from English universities, in which "arts" always includes Latin and Greek.

My second reason for keeping the degree of A.B. to designate the classical course is that other courses of study have their appropriate designation, such as B.S., B.L., Ph.B. Or, if putting it in that way is begging the question, it is desirable, it seems to me, to make some discrimination between the degree conferred for studies that are scientific, semi-technical, and general, and that conferred for studies that are pursued more for discipline and culture. Reduce the number of degrees to two, if you like, but let the degree of A.B. stand, as it always has, for the education that is pursued for its own sake—in which Greek is the essential factor.

My third reason for giving the degree in arts only to those who have taken Greek is a prudential one. In this land and this age, Greek has to contend against much prejudice. Now, if the A.B. degree has any prestige or value as a degree over other Bachelor's degrees, is it not in the interest of good education to give this premium, so to say, to the classical course? With those who would make Greek simply a luxury in education, or a professional study, this reason would have no weight, nor would any other reason.

Very truly yours,

M. L. D'OOGÉ,

Professor of Greek in the University of Michigan.

I have always been of the opinion that Greek is an essential feature of the A.B. course, for the reason that the A.B. degree, in distinction perhaps from the B.S., represents to me culture rather than mere knowledge. And I do not see how culture can be acquired without Greek. The Greeks were the first to have a clear perception of what is meant by a solid, well-rounded, spiritual development. They knew far less than we now know, but it may be doubted if our faculties are as well trained. In my case, I freely admit that I can remember nothing that so quickened my mind in college as the all-too-imperfect rubbing up against Greek literary method. It is a kind of training that I don't believe any modern literature, not even our own at its best, can give with quite the same delicate and firm touch. The ineffaceable stamp of Greek art is upon all that the race produced.

Besides, there is a practical value which is fully as great as any mere theoretical training. It is this: All, or nearly all, modern thought and modern form have been influenced by Greek, either at first or second hand. The modern literatures that I know best are German and English. Now, I do not know how to interpret the great Englishmen and Germans without reference to Greek. In German, Goethe and Schiller are permeated with Greek methods and principles. Lessing's "Laocoön" and "Dramaturgie" (his most valuable writings in my eyes) are Greek through and through. In English, how many of our best poets and prose writers have been influenced by Greek models! Tennyson was a life-long reader of Greek; his "Idylls" are full of reminiscences of Theocritus and the dramatists; his isometric song is a direct imitation of Theocritus. Browning is also Greek in culture, although, perhaps, in a less degree. Shelley is out-and-out Greek in his sympathies. So is Coleridge. So, perhaps, Wordsworth. Keats tried his best to become a Greek. As to the Elizabethan-Stuart period, that whole literature is the avowed offspring of the Greco-Latin renaissance. What is

one to do with Milton, for instance? Even Shakespeare, so original in many respects, is best appreciated by one who approaches him from the Greek point of view. This is abundantly proved by Mr. Moulton's book. The only section of our literature that tried to cut loose from Greek methods was the Pope-Goldsmith school, and that is precisely the least poetical, least imaginative section of the great whole.

After all, is not the permanence, the immanence, of Greek thought and method and form a fact in our life? Can it be argued away? Is it not wiser and honester to admit it frankly, and make the best of it? I am no fanatic. I grant you that a plowman, like Robert Burns, may rise to the front rank of lyric poetry without a scrap of Greek. But Robert Burnses do not abound. They are sporadic. The great mass of literary men for centuries have been molded by Greek influences. And if our colleges and universities are to expound our Anglo-American literature, to give the why and wherefore of literary movement, they must postulate Greek.

At least that is my view and my experience. More than once I have tried to dodge, or at least tried to help a pupil dodge, the Greek postulate. But it has always been a failure. My own knowledge of Greek is anything but satisfactory. It has grown somewhat musty with time. But poor as it is, I could not possibly afford to part with it. It keeps up my sense of form and mental sanity. It exorcises fads and fopperies. And fads and fopperies are our besetting danger.

Yours, as ever,

J. M. HART,

Professor of Rhetoric and English Philology in Cornell University.

December 21, 1893.

MY DEAR SIR: I have to acknowledge the receipt of your favor of the 18th inst., in which you call my attention to the exact point raised in what I may call "the Greek discussion" in its present phase. It is whether the degree of Bachelor of Arts should be given to candidates for that degree who have received no elementary training in Greek. You add that this point I did not argue in my "College Fetich," and ask me to write a short statement of my opinion upon it.

In its present common acceptance, as I understand it, the degree of A.B., as it is called, implies that the person receiving it has acquired a certain degree of proficiency in the classic tongues, especially Greek; that is, he is one who has approached what I believe is respectfully, though somewhat pompously, known as the arcanum, by the classic path.

Would it be offensive, and do you think I should use too strong language, if I should say that this venerable theory is to-day little else than a fraud, not to say a falsehood? Also, should I express myself with an undue lack of reverence if I asked you whether you think it altogether proper for our leading seats of learning to lend themselves to fraud, if not falsehood? Yet, on the other hand, can any person connected with those institutions truthfully assert that the amount of classic learning now achieved by at least seventy-five per cent., if not more, of those on whom the degree of Bachelor of Arts is annually conferred, amounts to any knowledge worthy of the name of either Greek or Latin? Is it not the "little Latin and less Greek" of Ben Jonson?

However it may have been in the more or less remote past, I think you will agree with me that there is not one institution of academic learning in the United States to-day, twenty-five per cent. of whose graduates—and I have put the figure, I think, very high—can, when the degree of Bachelor of Arts is conferred upon them, read at sight one line of ordinary Greek, or a paragraph of simple Latin. If I am wrong in this estimate, I shall be glad to be corrected.

Now, for reasons which I am unable fully to account for, as I have grown in years, and approached what is pleasantly designated as "the afternoon of life," I find myself

filled with a greater and greater dislike of what, for want of a better term, and again not speaking offensively, I will call cant. If the leading institutions of learning in this country, including Harvard, Yale, and other universities, were careful, in conferring the degree of Bachelor of Arts upon their graduates, to ascertain by proper examination that that degree was never conferred upon any one who did not have an adequate knowledge of the path through which it is alleged he has reached his right to that degree, I should have the utmost respect for the degree, as well for the institutions which confer it; but when, as I have every reason to believe, that degree simply lends itself to a falsehood, I find it difficult to speak of it with that respect which should be its due.

If those who advocate thus conferring the degree of Bachelor of Arts are prepared to come forward and assert that the degree is now habitually conferred upon those only who have made themselves reasonably proficient in classic literature, I shall agree that there is sense and reason in the limitation under which it is supposed to be given. Until they do, I consider the burden of proof is not on me, but upon them, to show that they and the universities are not lending themselves to what is at best an innocuous fraud, and innocuous because generally understood. In fact, a harmless tradition, except for the false and injurious training it involves.

I do not think it too much to ask of those upon whom a degree is conferred that they should be fairly acquainted with the elementary principles of the learning in regard to which the degree in question is their certificate of proficiency. Neither do I consider that the ability to read at sight the more simple books of either of the so-called classic languages constitutes an undue amount of elementary acquaintance with them.

How many of our institutions of learning would care to subject the large classes of students upon whom they annually confer the degree in question to the test I have indicated? And what would be the result of so doing?

I remain, etc.,

CHARLES FRANCIS ADAMS,
of Boston, Mass.

Mr. Adams brings forward an argument not produced or foreseen at the July meeting. I have therefore asked and obtained his permission to attempt an estimate of its value.

Let me, at the outset, call attention to the fact that the question is not whether young people should continue to be forced to study Greek or go without a college education, but whether, if they do not study Greek, they should, nevertheless, demand the same degree.

(1) The principal aim of the study of classics has been, and is, to acquaint the student at first hand with a literary art which is of the highest kind, and which stands in the most vital relation to the great literary art of our own language and of its sisters, and so to establish in his mental constitution a standard of expression at once vigorous and sane; to give him a direct outlook upon the thought and feeling of two epochs in the history of man which are of immense interest in themselves, and which stand in the most vital connection with the thought and feeling of our own time, and so to forestall mental narrowness; to give him, on the purely formal side, a clear understanding of that manifestation of the human mind which we call language, an understanding best got from the study of a highly developed inflected tongue; and to train him to face difficulties in his own thought, and in the interpretation of the thought of others, and so to establish habits of insistent clearness of vision and rigor of inference. If the study is carried only a short distance, the results are proportionately small. But so are they in the study of modern languages, or mathematics, or natural science. If the teaching is mechanical, the results are bad. But so also are the results of mechanical teaching in natural science, or mathematics, or modern languages.

As to the acquisition of the power of reading Greek and Latin at sight, desirable as it

is, and ardently as many of us have labored to have it made an aim in all preparatory and college work, the aim was not inherited by us from the generation before us, in whose time the significance of the degree of Bachelor of Arts was undisputed; nor has the possession of the power been announced in college catalogues of this generation as a condition for the granting of the degree. There have been no claims, and there is no fraud. Mr. Adams' phrase, "generally understood," is a commentary upon his argument.

(2) In the second place, it should be said that the picture which Mr. Adams has drawn of the actual state of things is much too dark. In a respectable and constantly increasing number of our universities, translation at sight forms a part of the test applied at entrance, while at Harvard and Chicago the admission examinations in the languages are wholly at sight. Much is also accomplished after admission. It is my opinion that a considerably larger proportion than one to three of the Bachelors of Arts of the colleges whose standards of admission and graduation Mr. Adams would select as worth founding an argument upon, are competent, on the day of graduation, not merely to "read at sight one line of ordinary Greek or a paragraph of simple Latin," but to take such a book as "*Xenophon's Hellenica*," or an essay or oration of Cicero, and make a good deal out of continuous pages.

(3) Let us, however, suppose that our colleges did have the requirement that their Bachelors of Arts should be able to read Greek and Latin of moderate difficulty at sight, and that not more than one man in four were, in fact, competent to do it. What then? The conclusion which I should myself draw would be, "We must endeavor to correct our failure to reach an ideal commensurate with our degree." Mr. Adams' conclusion, "Therefore we will confiscate your degree," seems to me a somewhat less reasonable one. If there existed a degree of Bachelor of Natural Science and Mathematics, or something which had been understood to have this meaning, and three-quarters of the graduates of the better colleges fell short of an avowed ideal, it would not seem to me right that a new course, founded principally upon modern languages, should demand to have the degree of Bachelor of Natural Science and Mathematics, or its synonyme, conferred upon its graduates, even if they were able to read French and German at sight very rapidly indeed.

But a definite test of the validity of Mr. Adams' argument may easily be had. If all the new-fledged A. B.'s of our better universities were to be set in June next to write the entrance examination papers in mathematics one day, and in Latin the next, there is no question that they would do better on the second day. But does it follow that mathematics, which, though not the more characteristic, is yet an essential part of the work associated with the degree of Bachelor of Arts, should be dropped from the requirements for that degree?

The fact is simply that Mr. Adams has turned against one group of subjects an argument from the imperfect results of education which could equally well be turned against any other study.

His letter, nevertheless, seems to me in several ways to be of great value:

First, as showing in the phrase, "the false and injurious training which it involves," a misconception of what is actually accomplished by classical training in the better colleges, and a somewhat non-judicial attitude of mind toward the whole problem. The view more commonly urged is, not that classical training is injurious, but that there are other trainings which are equally good, and at the same time more practical.

Second, as marking the discovery of a new "college fetich." The Greek one has been exposed and broken up. Now Latin has been found out, and must go. But the old degree, which, though founded on associations with this "injurious training," is very good, must stay. Harvard, for example, evidently ought to give the degree of Bachelor of Arts with neither Greek nor Latin. I have never been able to take the "Stanford

idea" quite seriously, but it would seem to be intrenched even to the eastward of Harvard University.

Third, as enforcing the old argument, the principal one of my paper, of *meum and tuum*. The degree of A. B., as Mr. Adams himself understands it, "implies that the person receiving it has acquired a certain degree of proficiency in the classic tongues, especially Greek."

Mr. Adams, in the "afternoon of the day"—a long and sunny afternoon, let us hope—dislikes cant. I also, though perhaps only at the meridian, am of his mind on this point. But, as the sun begins to go down, I deprecate intellectual narrowness and the untempered mind almost as much as I do cant. In this age of alarms, the ideally educated man of the future threatens to be blind either of his humanistic eye or of his scientific; or, if he is humanistic of both eyes, to be near-sighted. May my sun set before it shines upon a world so unsympathetic.

WILLIAM GARDNER HALE,

Professor of Latin in the University of Chicago.

I do not in the least believe that a knowledge of Greek should be required for the degree of Bachelor of Arts. The argument for its retention is entirely different from that for the retention of Latin. There are other grounds for entertaining the view I do than the one I am about to state, which is that the change is desirable for the sake of Greek itself. As a voluntary study it would be pursued more enthusiastically, and carried infinitely further than is possible under present conditions. There is no more depressing sight than the one now commonly seen, of a body of men interested in that particular language and literature, and eager to make the most of their opportunities, perpetually held back by another body of men associated with them, who care nothing for the subject, if they do not actually hate it. Such a state of things can only be defended on the ground that a knowledge of Greek is somehow essential to a liberal education, and, that, if one cannot get the reality, one must at least make a pretense. Of all shams, I believe the least in any sham that dubs itself liberal education, which, it sometimes seems to me, must have received its name from the illiberality of the ideas exhibited by men who are supposed to possess it.

Whatever may have been true of the past, I have heard but one argument for the retention of Greek as a required study in the present, which struck me as possessing any real weight, and even that does not seem to me very important. This is, that if once made an optional study, it would soon cease to be pursued at all, or pursued by so few that it would come to be considered of no account. If this were true, it would be a most damaging imputation upon the value of the subject. A branch of learning which needs to be maintained by artificial aids had better be dropped. Its disappearance would show that it is entirely unsuited to the requirements of modern life. But I do not believe for a moment that any such result would follow. I believe thoroughly in Greek, and am perfectly confident that the loss in the number knowing it would be immeasurably overbalanced by the enthusiasm and proficiency of those who set out to know it. A language which has been the vehicle of one of the noblest literatures of the world will always attract to its study the highest class of minds which are interested in literature itself. It will require no artificial stimulus to arouse the attention of such men to its interest and importance; and it itself will be relieved from the odium under which it now suffers in consequence of its being forced upon those who are not interested and cannot be made to be interested in it, though they may be able, and may turn out eminently successful in other departments. It is because I believe in Greek that I want it reserved for those who need it most and will get most from it.

Very truly,

T. R. LOUNSBURY,

Professor of English in the Sheffield Scientific School, Yale University.

The degree of Bachelor of Arts as now awarded by our universities and colleges is understood to give proof that the recipient has completed, in a manner satisfactory to his preceptors, a college course which includes Greek language and literature. But to a considerable proportion of our young people this course is not the best, and in selecting their college studies they substitute for the Greek such as they believe will be more directly and immediately beneficial in their after life as they plan it. But their college course, if satisfactorily completed, ought to result in intellectual discipline equal to that expected from the classical course, and their college honor ought not to be lower in grade. But I do not understand that the degree such students may now claim is regarded by college authorities as in any sense inferior to that of Bachelor of Arts, or that it fails to indicate equal intellectual discipline; and it would seem that the fact that it shows what college course was taken ought to be no objection. It is probable that something like a public sentiment still regards the old college honor as most desirable, but this sentiment is changing, and if it works injustice now the remedy would seem to be to help along the change, instead of making the award of college honors wholly undistinguishing as between courses.

THOMAS M. COOLEY,

Professor of American History and Constitutional Law in the University of Michigan.

Should Greek be required in American colleges as one of the prerequisites for the B. A. degree?

If this question be considered on rational grounds alone, I have no hesitation in saying that in my opinion the answer should be, distinctly, yes.

The arguments which lead to this conclusion have been so frequently and so well stated that I need not repeat them; but some of the facts on which they proceed may be simply mentioned. Study of the Greek language and literature, even though it be not profound, gives one a view of the life, modes of thought, and customs of one of the most gifted people of the race. The language itself affords material for the best kind of discipline. It is the source whence are derived many of the most valuable elements of our own language and literature. It is the source of much of the nomenclature of the learned professions, notably medicine. The various disciplines of science are having constant recourse to the Greek for names of newly-discovered phenomena which mark their progress. A knowledge of Greek is of incalculable advantage in acquiring the use of modern languages, and so on.

But my experience in teaching college students, extending over a period of more than thirty years, during which I have had under my instruction those who were pursuing the B. A. course, and consequently were required to study Greek, as well as those who were pursuing the B. S. course, in which Greek was not required, has shown, generally speaking, that the former are more successful as students of pure science and its applications, as physics and chemistry, than the latter.

During the first ten years of my experience as a college teacher, I also had under my instruction students in medicine, many of whom were graduates in Arts, and consequently had some knowledge of Greek; while others were not college graduates, although they had been trained in Latin. The difference in ability to grapple with difficult subjects was always very markedly in favor of those who had some acquaintance with the Greek, and, so far as I have been able to follow the subsequent professional careers of these students, their superiority over their less fortunate classmates has been almost uniformly maintained.

For some years past I have been giving instruction in electrical science and its applications. Most of the students in this course, which, in connection with collateral studies, may be termed a course in electrical engineering, have been graduates of Princeton College or of other colleges. Some of them were graduates in Arts, and had

studied Greek; while others, graduates in Science, had not. Here, again, the difference in ability to meet and overcome difficulties is very conspicuously in favor of those who have had the broader classical training. This is shown in their greater ability to appreciate nice distinctions and abstract statements, as well as in their greater facility of working generally.

In view of the arguments which may be adduced from rational considerations, and especially in view of my own experience and observation as a teacher of science, I should be very sorry ever to see any considerable number of our colleges consenting to bestow the B. A. degree, except on condition of requiring study of the Greek as a part of the course leading to that degree.

C. F. BRACKETT,

Henry Professor of Physics in Princeton University.

As I am neither a teacher, nor connected in any official way with education, I can contribute to the "Greek question" nothing but the practical experience of a journalist who earns his living with his pen, and whose calling requires a continuous observation of society. I frankly exclude from any conclusions on education, genius of the first order, whose brain difference from the average man, plus or minus education, I believe to be in even greater proportion than the relative rarity of his appearance, so that education is with genius a neglectable quantity. Mere money getting I also exclude, since it is a mechanic trade in which an early apprenticeship is, if not indispensable, still a great advantage in acquiring a fortune, though education is needed to enjoy one. What I have to say deals with the needs of that great body of men who carry on the business of being civilized, without which nations are mere herds of dumb driven cattle.

First. In my own calling a generalized capacity for expression and observation is of first importance. Relative to the number with and without the regular classical training, this capacity is earliest acquired and best used by those with this training. For fifty years, for instance, at the point of greatest competition, New York City, an overwhelming majority of the men in charge of periodicals, daily, weekly, and monthly, have been college men of the Greek course. The greatest have not been such; but the average is the other way. Next, the man with the old degree and required Greek rises faster and holds his own more steadily. So far as my own personal experience goes, but a small thing in a subject as broad as this, the value of the study of classic tongues, Greek in especial, to secure skill in the expression of thought and the use of language, has long been to me past all discussion. Modern language study is mere gruel by the side of it.

Second. With the overwhelming drift of our day and time toward mere use as the test of all value, cannot you who control education keep one degree which visibly stands for devotion to the highest intellectual ideal, irrespective of wage-earning use? Greek, and the education which the affirmative of the "Greek question" stands for, is, I believe, the best for the stress of practical life in all of its walks which make the creation of mental and moral values their chief aim. But, aside from this, there ought to be one degree whose requirements are avowedly arranged to meet the highest intellectual ideal, without compromise, conciliation, or concession. Where all substitutes are presented on the ground that they are "as good as Greek," the practical conclusion is and must be that the Greek standard is the best, by common agreement and a mutual exclusion. Let us have one degree in the future, as A. B. has been in the past, whose distinct aim is not a choice between advantages, but an uncompromising requirement of the best.

Lastly. Ours is a secondary civilization. Where in history has there been one which did not owe such intellectual life as it had to the study of a classical field? The permanent and mental tilths which the world's wider civilizations enjoy, all rest on the

study of a tongue analogous to Greek. I have wandered somewhat afield in Oriental study. I wish some man more competent than myself could be asked if the singular staying power of the thought based upon the Chinese classics, on the Koran, on Sanskrit, and on the long succession recorded in Cuneiform, does not rest on the precise quality and character of thought developed and stimulated by the study of a great vehicle of expression which has ceased to be the means of ordinary human intercourse? Even as to the Koran, classic and colloquial Arabic are far apart, and Arabic is the tongue of but a part, a small part, of militant and conquering Islam for six hundred years. The others have all based their education on a language once great, but long disused. The world is full of imposing monuments which we can neither describe nor decipher because their civilization had no staying power, no "bottom," for the long steeple-chase of history. Is it an accident that all the civilizations which live and last are based in education on the study of dead languages and classics?

Yours sincerely,

TALCOTT WILLIAMS.

Editorial Room, Philadelphia Press.

DISCUSSION.

PROFESSOR A. F. WEST, of Princeton University, said: When Dana as a geologist and Young as an astronomer and Whitman as a biologist, tell us that we need Greek, we may well cherish the hope that Greek will not have to "go." The one thing which, as much as any other one thing, will help to hold Greek for the Bachelor's degree in the immediate future, is the help that is coming from the great men in the natural and physical sciences. If one should run over the list of American discoverers and investigators in the world of nature, it would be found that such a large proportion of them have been classically educated men that no explanation could be offered for the fact, except that classical culture contains something which helps to open the mind, that is really liberalizing, that enfranchises thinking. It is a familiar fact that the same is true even in a greater degree in Germany, where the scientific men have been almost entirely produced in the classical gymnasium. The cause of Greek is the cause of pure science. Furthermore, the requirement of Greek keeps away from our academic courses many who ought to be kept away from them. It is a superb sieve. It strains out the utilitarian element, and with it those who insist on an answer to the question, What is all this worth? before they will study anything. When we have to learn a thing which does not seem worth a great deal practically, we learn at least the noble lesson of disinterestedness.

PROFESSOR WHIPPLE, of Wheaton College, Illinois, thought Professor Hale's paper had covered the whole case. Speaking as one who had been for many years a teacher of natural science, and who during his college course found the study of Greek irksome, Professor Whipple stated that the result of his experience and observation in the classroom had changed his views entirely. The main reason for insisting upon the study of Greek, the principal advantage there is in it, is that, if properly pursued, it secures an exactness of expression and an exactness of thinking which is of immense value throughout life. The question may be asked: Why will not the study of modern languages do as well? Several answers might be given, but it is sufficient to cite the fact that modern languages are so much easier that they do not yield the same discipline from their study which the classical languages yield.

PRESIDENT JORDAN, of Stanford University, California, considered Professor Hale's paper the best presentation of the affirmative side that he had ever heard, and yet was

free to say that, while agreeing with Professor Hale's facts, as far as he understood them, he must disagree with every one of his conclusions, and that, too, in the interest of the study of Greek.

Nothing so weakens a study as to make it the subject of official pampering ; to put it in such a way that it is to be studied, not for the visible good it gives, but for some peculiar good which the student is taught he has not the ability to comprehend. Nothing has so hurt the study of the classics in this country as the divine sacredness with which we have tried to invest them. We have hurt science as much as the study of Greek by not putting Greek on its own merits in the same position, in regard to university work, as other studies are put on in Harvard or Johns Hopkins. We certainly would not name any other university than Harvard and Johns Hopkins, where higher work is done, where Greek is studied for the good it gives, and not as a part of a divinely appointed curriculum. Making Greek a requirement weakens it in all its relations, and the utilitarian spirit has not done one-twentieth as much harm as the spirit of pointing to Greek as something sacred. Accordingly, Greek should not be made a required subject for anything except Greek courses. A scientific study should not be required except in purely scientific courses. Let us change the form of the question from, Should Greek be required for the degree of Bachelor of Arts ? to, Should we give the Bachelor of Arts degree without Greek ? That is, shall we give a certain name to courses without Greek ? The question is one of name. It is not a very important question for that reason. It is, of course, desirable to have degrees that will tell what a man knows, as, for example, an A.B. stating that he had Latin and Greek. It would be better if he could be labeled A.B. in Anabasis, enumerating the books he had read, the places where he had read them, and, better than all, the teacher under whom he had read them. It might be still better to have different colored gowns to signify different degrees. Thus we might have pink gowns for those who have read the Anabasis, and blue gowns for those who have read something else. Then you could see a Greek man across the street and say, "There goes a Greek man who has done an advanced piece of work." But we do not care for that sort of thing. We do not want titles. It is not the American spirit. This is the strongest reason for reducing all these degrees to one, and has not been referred to by Professor Hale. Caligula wished all the Romans might have one neck so that he might cut it off at one stroke. Likewise, let all degrees have but one neck so that they could all be cut off at one blow, for the whole thing is merely foolishness, as the wearing of pink or blue or yellow gowns is all childishness. It is a step in the right direction when we either multiply degrees unduly, so that they will appear ridiculous, or when we reduce them all to one.

The separation of degrees from B.A. is bound sooner or later to kill all degrees. It will not kill the Greek, for which the degree stood, and the time is coming when Greek culture will be more and more appreciated. Not that there are not plenty of other kinds of culture, but there will always be Greek-minded men and Latin-minded men, for whom Greek and Latin will have value.

The degree of A.B. had meant such liberal culture as the colleges of the past were able to give. The colleges of the present were able to give a liberal culture in many more directions. All academic words and terms are undergoing changes. The word doctor and the word bachelor are not exempt from this. It would have been better to have found new names for every one of the new conditions. But all colleges cannot meet the demands of all men, and it is not the business of any college to force upon any that which is not for his best development. If an institution proposes to teach only classically minded men the classics, very well. It is a noble field, and the work may be nobly done. It strains out by that sieve a vast number of men who want training, and want it in other fields. Although in Germany, all scientific men of all kinds were forced to go through a course in the German gymnasium, yet there is nothing in

education so much criticised as the German gymnasium. In this country it has been true that the great majority of scientific men were outside of the colleges altogether. It is not true now, by any means, but it was once true, that the men who had done work and made a name for American science were men outside of colleges, who reached their knowledge through other means, because they were strained out of colleges which forced them to do what they did not want to do.

[Here Professor Shorey, of the University of Chicago, asked whether President Jordan would name some of the American men of science who had received their training outside of the colleges.]

President Jordan said that he could mention in general almost all those who are great in zoölogy, such as Audubon, Wilson, and Lawrence. He could think of only two early scientific men who were college graduates. However, all that class of men was outside of colleges; not that a classical education would have hurt them, but that a classical education stood between them and what they wanted to do.

Most of the scientific men whose letters were read by Professor Hale appealed to the value of Greek from the utilitarian side, referring to its etymological advantages. But we know that the knowledge of Greek for etymological purposes is not the kind usually taught in college, nor is the value of Greek to scientific men in giving them the meaning of scientific words of very great importance. In another letter read there was a reference to the fact that the intellectual tilths of this generation were largely on classical fields. As a matter of fact, they were largely in biological and psychological fields, matters wholly outside of the classics. The intellectual tilths of this generation have been about the works and name of Darwin. They have dominated everything else, and if we are to apply the weight of evidence as to the value of Greek and Latin, we might appeal to Darwin, who says his time in the university was absolutely wasted, because it was spent on subjects he had no use for.

But unfriendly criticism of Greek, as Greek, is not legitimate, because Greek and what Greek stands for will always have its importance. The question here is simply whether we will take the name B.A. for a narrow field, or spread it over a wider one. In the statement made in one of the letters, that modern languages are mere gruel beside Latin and Greek, the person simply gives himself away. A man who has read Goethe, Lessing, and other masters would never say that. Nothing is gruel if it is done in a worthy spirit. Advanced work in any subject will lead to strength. There is no conceivable subject in which it will not. In closing, President Jordan asked when Greek became a dead language and ceased to be a means of human intercourse. He had supposed that quite a number of persons, who said they were Greeks and came from Greece, were still actually using Greek as a means of human intercourse. Greek is not a dead language, and even if it was it would not deserve any special consideration on account of its death.

DR. IMELMANN, of the Joachimsthal Gymnasium, Berlin, Germany, in reply to President Jordan said that the Greek question, which in America and England is in the first place a university question, is in Germany primarily a college or gymnasial question. As an old gymnasial teacher, he took the highest interest in this question and had studied the literature on the subject—an immense literature, indeed—with an unprejudiced mind. He was under the impression that the general bearings of the question in America and in Germany were quite analogous, and that the arguments pro and con were the same. The problem itself appears to be an endless problem. This Greek question will never be solved. Still, to occupy one's self with it, to study the question of Greek, is in itself of the highest value. Even those who oppose the classical system, whenever they study this question are studying Greek, too. It is, after all, more a question of personal experience, and, so to say, of personal faith,—for a scientific final determination of this problem is not possible. Those who have once lived, and, more so, those who are so

happy as to live in a daily and intimate intercourse with the Greek language and literature, with those old and immortal masters of European culture, know what they are and how rich they are. They know how much they themselves owe to the Greek spirit, to Hellenism, and it is their *credo* that there is no substitute for the study of Greek. It is their belief that the study of Greek literature, Greek philosophy, Greek poetry, and Greek science is much more, is unspeakably more than to learn a language, than to read several authors. It is, so to say, to drink from the oldest, purest, richest sources of European civilization. It is to lay the most firm foundation for an idealistic view, for a high and broad view of life. It is perhaps the best way, the natural starting point of an historical education, the best warrant of what the Germans call moral freedom—that is, the freedom of an unprejudiced and comprehensive mind.

PROFESSOR SHOREY, of the University of Chicago, said : Man is not a logical animal, and questions of this kind are rarely decided by sheer stress of argument. But since there is little which I could wish to add to the direct presentation of his thesis, given by my colleague, Professor Hale, I will venture, in the few words I have to say, to inflict a little of the dialectics of the subject upon you.

We all of us probably remember the scene in "Daniel Deronda" in which Sir Hugh Mallinger remarks that he has forgotten all his Greek ; but still it did him good, it formed his English, which, by the way, is rather hesitating and faltering ; and we all remember the respectful silence that Daniel Deronda himself observed in the face of this declaration. I generally feel inclined to preserve a similar respectful silence in the presence of most of the arguments which it is my misfortune to hear in defence of Greek. The paper of to-day was a happy exception. Nevertheless, even in to-day's debate it is to be noted that nearly every one of the very able and tellingly put points made by the distinguished president of the scientific university in the West, were made against arguments in favor of Greek that will not bear scrutiny, arguments that fairly made me cringe when I heard them—the etymological argument, for example ; a mere argumentative stop-gap employed in default of more serious reasons—or the idea that Greek should be required of everybody as the one thing needful, a point that is not seriously made by the true defenders of Greek. The real educational issue raised, apart from those telling retorts against weak and indefensible arguments—the real educational issue he raised was the challenge to produce sufficient reason for establishing distinct degrees of B.S. and A.B., and sufficient, fair, and serious practical modern educational reasons for reserving one of these degrees as a distinctive degree for the course in which Greek plays an important part. That was the sole serious educational issue raised by his amusing persiflage of the "blue and yellow gowns."

I will ask you to watch me closely and see whether I do not answer this challenge before I have done. But before entering upon that matter I wish to clear the debate of one or two irrelevancies constantly brought forward in the discussion of this question.

In the first place, it is proposed to compel nobody to study Greek. It is proposed by the advocates of Greek to compel those who want the degree of A.B. to study Greek, there being concurrent degrees of B.S. and Ph.B. Therefore all questions of compelling men to study Greek are questions not relevant to the subject.

Secondly, it is often stated (I am still clearing away irrelevancies)—the argument is often advanced that Greek is not practical. That is a question for a man to decide before he goes to college at all. The very idea of a liberal education in this country, and I hope it will always remain so, is that a man has a certain amount of leisure for disinterested culture ; and I should be very much interested, as Charles Lamb once said, to "examine the bumps of the gentleman," and to investigate the processes of ratiocination that would lead to the conclusion that Middle High German is a more practical study than Greek for a practicing attorney, and that the comparative anat-

omy of the invertebrates will help the wholesale grocer where Greek literature leaves him in the lurch. No college studies are practical, if by practical you mean calculated to insure the kind of success won by Jay Gould. The practical course for men whose hearts are set upon this career is to begin as Jay Gould did, by sweeping out the office at fourteen, with the chance of remaining an office sweep forever, or of accumulating a fortune like Jay Gould's.

So with regard to the argument we often hear—an argument that has not been advanced to-day, but which I am sure is in the minds of many present—the argument that whatever may be said of the delicacy and subtle precision of the Greek language, of the glory and beauty of Greek literature, the average student does not really attain to that. This is not a relevant argument, for it is simply an indictment of human nature and of our bad methods of teaching. When scientific men are together by themselves, when modern language men come together and the history men are meeting, they will all admit that their own subjects are not taught according to the ideal method. We must be consistently optimistic or pessimistic when we are comparing the relative educational values of subjects. We must either assume that all studies are to be taught so as to bring out all there is in them, or we must accept the present low standards for all. It is not relevant to say that the beauty of Greek literature is not grasped by all students who pursue its study, unless you admit the same conditions with regard to the peculiar discipline of science and other studies.

So, in the same way, some will say that Greek is forgotten. But I will venture to affirm that nobody in this assembly can have forgotten his Greek more absolutely than I have forgotten my old English history and my calculus. The fact is, no man remembers anything in detail unless he keeps it fresh by daily practice either as a profession or a hobby. But the general civilizing and refining effect of his study he does not lose. And some subjects perhaps leave more of this civilizing after-effect than others.

Now, having attempted to clear away some of these irrelevancies that ought to be left to audiences of another character, I will endeavor to state what I consider to be the real educational issue. Are there, in the present state of education in the United States—are there logical, practical educational reasons for bestowing more than one degree as the stamp and seal of what is known as a general collegiate education? Secondly, is there anything in the special claims of the study of Greek to make it reasonable that one of these alternative courses, one of these degrees, should be characterized by the presence of Greek in its curriculum? I think both of these questions can be answered in the affirmative, and, if so, the question is settled so far as the logic of debate can settle anything in a world admittedly not governed by logic.

I think from the educational chaos of the time there emerge two or three distinct types of education. We all recognize that there is an education based essentially not merely on knowledge of the results, but on discipline in the processes and methods of physical science. That distinction (between methods and results) is not made often enough, but the distinction is all-important. All educated people may master some of the results of science; only a few can master scientific processes. If we try to master the methods, we have to sacrifice liberal culture. If science means several hours daily in the laboratory (and our scientific brethren will accept nothing less), then science and the older literary and historic culture are for all but intellectual giants incompatible. We cannot have both, as Mill demanded—*ceci tuera cela*. This education in science may be broadened in many ways, by free election of culture studies, or by prescribed courses that will widen the student's outlook; but his main work must be done in the laboratory. It would be idle to attempt to ignore this type of education, in view of the part played by physical science in our modern civilization, and the many able men whose powers are best developed by this discipline. It must be recognized and

stamped by the seal of the college with a degree, the degree of B.S. There is no question about that, and there is no necessity of compelling men who want this training and this degree to take another type of culture.

Then (but of this I am somewhat doubtful) there is an intermediate, compromise form of education which certainly has been shown to meet a popular demand—the course that leads to the degree which the University of Chicago calls Ph.B.; in which some of the detailed knowledge of the processes and methods of modern science is sacrificed to make room for a certain infusion of the mental and moral sciences, history and Latin, and a certain modicum of the modern languages. This is the second type of education (possibly a transitional type) recognized, and for the present I think wisely recognized, by the University of Chicago.

And now we come to the third and last of my three types, what is known as the old classical course, sometimes called the humanistic education, but which I prefer to define as an education, as my colleague says in the knowledge of the best that has been thought and said in the world, studied *systematically and scientifically in its sources*. That education, I think, is a sufficiently marked distinctive type, and, what is more, there is a distinctive type of mind adapted for that education. I hear a good deal of the unfortunate youth who is compelled to waste his time grubbing among Greek roots and analyzing Greek optatives when he would rather be working in the laboratory; but what of the youths who are forced to waste their time dissecting star-fish, and who are tortured with test-tubes and retorts, when they would rather be reading Sophocles? The argument is as strong on one side as on the other. I do not advocate compulsion in either direction. But the "election" of elementary physics and chemistry is not left to the caprice of the student of biology, and it is at least conceivable that there is a type of education in which the study of Greek should not be an accident.

And now I come back to the main question, which I have not lost sight of: Why is it necessary to distinguish B.S. and B.A.? What educational end is achieved by stamping the course that prescribes Greek with a special degree? Why not have a free elective system, and allow students adapted to Greek to pursue Greek, and those adapted to science to pursue science? The idea of the free elective system is very alluring. It results, however, in chaos, unless intelligent pressure is put upon our students; and intelligent pressure is not put upon our students to choose their courses wisely where the absolute free elective system exists.

I am myself a son of Harvard, and I admire and love Harvard as much as anybody in this assembly, and yet my own course, considered a successful one, was not wisely chosen, and I believe that is the case in a far larger number of instances than appears in optimistic annual reports. What guidance and direction there is, is exercised in casual perfunctory interviews with deans and advisers, and may at any time be counteracted by caprice, prejudice, a letter from home, or the last "able editorial" on the college fetic. That is not the way to plan a well-considered scheme of education. Such schemes should be elaborated by the collective wisdom of our university faculties. The university should define in their broad outlines two or three main types of liberal education, and set up the corresponding distinct degrees as sign-posts to guide the student to a definite goal. It will tell a student who wants a predominantly scientific training that he must pursue certain studies, because such studies are, in the judgment of the entire scientific faculty, necessary for a properly coördinated scientific education; and, similarly, if his tastes and capacities are for the historical culture, it may, without tyrannous restriction on his freedom of election, tell him that it is well for him to read the "Chanson de Roland," but it is indispensable for him to read the Iliad. By so doing, the university will often save its students from false tendency, wasted effort, and vain regrets.

Every teacher of Greek is familiar with the experience which I have had repeatedly

during the past year. Intelligent students have come to me who have discovered that the education they want is the literary and linguistic. They *do* want to know the best that has been thought and said in the world, and they *do not* want to work in the laboratory; and they have been brought up in colleges, like some universities that have been represented here to-day, where they were prevented from studying Greek at the right season; and now they anxiously inquire whether it is too late for them to secure this key to the one domain of knowledge that attracts them most, and it is difficult to advise them honestly. If the alternatives had been clearly put before them at the beginning, and they had been told that Greek was indispensable for the particular culture that they wished, they would have been spared their misdirected efforts and regrets. Here is the distinct educational argument in favor of the division of degrees. It sets up a sign-post, as I have already said, to guide the student from afar, and forces upon his attention the problem of distinguishing the two or three leading types of education, and choosing, with intelligent advice, the one for which he is best adapted. It is mere quibbling, and not a fair *reductio ad absurdum*, to argue that this principle would lead to a dozen specific degrees with a colored gown for each.

I pass lightly over my other points. The second point is (assuming that it is desirable to bestow two or three distinct degrees) that Greek should mark such a type. The reasons for that have been developed repeatedly to-day, and I could not possibly do them justice in the brief time that remains. One strong reason familiar to the lips of all, although not believed and felt by all, is that the Greek literature is in itself intrinsically the most beautiful in the world. Unhappy those who think this is a mere superstition of Greek professors! But if any here are thus skeptical of the imperishable charms of Greek, how can I prove it to them in five minutes extempore discourse? I can prove it to any intelligent class of sophomores who have passed the first thorny hedge of grammar, and who will read with me a masterpiece of Sophocles or Plato, and perhaps that is enough. But it is not solely or mainly on account of this charm that some knowledge of Greek must be the distinctive stamp of one form of culture, one type of education. It is because, as was said in one of the letters read from this platform to-day, it is impossible to be a *Quellenforscher* without Greek, because Greek is indispensable for the systematic and scientific knowledge of the history, philosophy, and religion and poetry of the West; because the Greek spirit is the direct source of all that lives and moves and has its being in the higher world of modern thought. True, the average student will not realize all this any more than he will appreciate the full significance of the "scientific spirit." But the appointed custodians of Greek culture must not merely affirm, but believe and know it. In the daily routine of the classroom we must draw for our students the subtle lines that link that exquisite past to all that is truly living in the spiritual life of our own time. If that were done, we should have the students with us, whatever may be the opinion of the general public.

PROFESSOR T. C. CHAMBERLIN, of the University of Chicago, said that in the past the Latin-Greek-mathematical combination had presented a somewhat definite curriculum, and that this fact apparently justified the giving of a definite degree for that combination. He thought that the other curricula that had been presented in the past were inferior, with the exception of some recently introduced, and that this seemed a sufficient reason for giving them other and distinctive degrees.

The present, however, is clearly a transitional period. None of the old curricula are given in their former integrity. All have undergone transitions. The practice of giving a specifically definite course of study may be said to have passed away, and the practice of variation by individual election has taken its place. The degree of variation is increasing, but as yet it has not progressed so far as to entirely destroy the distinctness of the several courses in institutions which still retain the course system.

At present, therefore, it seems a matter of discretion to rest with the judgment of the several institutions whether they shall confer several degrees, or shall substitute a single baccalaureate degree. If old degrees are retained, it is perhaps best to follow as nearly as possible historical precedents, and to require Greek for the Bachelor of Arts. If a single degree is substituted for the several degrees, it seems clear that Greek should not be required, because it does not seem a necessary constituent of an excellent college course, and our practices do not at present make it a necessary constituent. As to the future, it seems clear that very soon the number of actual courses that will be taken by election, or by other devices adopted by institutions, will become so great, and the combinations of studies will become so inextricably interwoven with each other, that there will be no legitimate basis for discrimination free from arbitrariness and invidiousness. It seems, therefore, that the coming practice will be the substitution, in place of the present divers degrees, of the single degree, which shall signify simply the completion of a college course. The only alternative apparently open is the addition to such a general degree of addenda which shall indicate the special study selected, or the special group of studies selected. This, however, seems more or less impracticable. It seems probable, on the whole, that the coming degree will be A.B., because it is easier to adapt an existing practice than to institute a new one. It would be better, however, to institute a new and different degree corresponding to the new significance.

PROFESSOR HALE, in closing the debate, said : My agreement with the last speaker is nearly complete, if I have apprehended his final statement rightly. With regard to President Jordan's argument much might be said, but I will take time only to dissent from a single expression, the word "pamper." President Jordan charges us with wishing to "pamper" Greek. In point of fact, no odds are asked in behalf of Greek except those which in any other relation of life are called "rights." On the other hand, it is either lack of frankness or lack of discrimination that keeps the advocates of the new scheme of education from seeing and admitting that, when they say that a new degree is not good enough for their scheme, and that the old degree, with a broader meaning, must be given it, it is they who are asking odds, and it is their scheme of education for which the "pampering" is demanded.

WHAT SIGNS OF IMPROVEMENT ARE VISIBLE IN THE UNDERGRADUATE LIFE OF AMERICAN STUDENTS?

BY BRADFORD PAUL RAYMOND, PRESIDENT OF WESLEYAN UNIVERSITY,
MIDDLETOWN, CONN.

SEVERAL topics suggest themselves on the question before us : "What signs of improvement are visible in the undergraduate life of American students, in athletics, morals, student organizations, intercollegiate courtesies, and relations of students to instructors?"

Let us begin with the subject of athletics. Apparently the thought in the mind of the person suggesting this question was substantially this : Are we making a better type of manhood in our colleges to-day than we were a few years ago ? Are there any indications to show that we are

advancing in the quality and effect of our work upon those who attend our schools of learning? I suppose this phase of the question may have been suggested because of the perils that confessedly are connected with athletics in our higher institutions of learning. It is certainly true there is peril to life and limb in some of the sports in which the college students engage. It is true, to a certain extent, the young men who are devoted to athletics have compromised their studies; and true that there come periods in these contests when the moral stamina of these men is put to the severest tests. Nevertheless, I want to say at the outset that I am in favor of athletics, and I believe that there are signs of progress in all of our colleges.

The opinions we form must come largely from our own institutions of learning; hence, perhaps, I shall represent only a local opinion, while very likely many of you may differ from me in some of the things I may say. Nevertheless, I believe that there are signs of improvement. I think the fact is that our college athletics are judged by what is to be seen on those days when college teams meet for the college contests; but this is evidently an unfair and an unjust basis from which to estimate the value and the significance of college athletics. You do not so study the significance of civic life. If you were to ask what is the value of civic life, and of our laws and institutions, and what is being done to make good citizens, you would not go to the polls on election day and stand there with your arms folded to find how many profane men there were there, how many drunken men there, how many who take bribes there. Not at all. You would say these are extravagances, excrescences; this is an abnormal manifestation which does not truly represent the heart of our civic life. You would rather go through the country and study what is being done in municipal government, and in state and national legislatures; you would not study the effect of our national institutions upon the character of the people as seen on an exceptional day, but as seen throughout the whole year.

I would study athletics just as I do civic life; I would see what is going on three hundred days in the year, not on an exceptional day. And if I found that in the gymnasiums there is a process of training, with carefully planned physical exercises under the care of competent directors being pursued through the year, and that at the end of the college year the students were far better physical men than they were at the beginning of the college year, I would say that we had the best foundation laid for their development; that athletics in our colleges are doing a great deal for the development of physical men who must be able to stand the stress of hard business life, and of professional life, and to carry on with success the enterprises which they take hold of. This much with reference to the method of investigation of the subject.

I think there are signs of improvement in the college teams themselves.

Take an instance which is characteristic. A few months ago, at a little gathering in my home, the captain of one of the teams came and said : " You will have to excuse me ; I will have to retire ; it is ten o'clock." I said : " Why do you have to retire at ten o'clock ?" Said he : " I make the rules for the members of the team, and I have to obey them." And in a few minutes the men had all gone home. I say that is a good thing for a man of force to say to twenty or thirty young men in college who are working on that team : " You must retire at a given hour at night ; you must live under such and such a *régime*"; and for men to hold themselves to that *régime* means not only physical strength, but it means moral control.

It does seem to me that this subject of physical training is one which has been neglected in our whole land. If we compare ourselves with Germany in this respect, we see how little is done in our elementary schools, and how little has been done in our higher schools and colleges. We are just taking hold of the subject, and are realizing that it is of vast importance to a nation that men sent out to carry on national life should be men of splendid physique, men of splendid constitutional force, and that we should develop a physical constitution which will tell in our national life. We need men of courage, and the man who goes on the foot-ball field is the man who learns to develop the right kind of courage to meet the difficulties of our great cities. Because of the excesses of comparatively few of the men in our colleges, which show themselves on certain days, we have inclined to think college athletics generally are demoralizing. This much with reference to this question of athletics.

The next point is the question of student organizations.

I can say only a word with reference to the fraternities. I am not a fraternity man. I was educated in an institution where Greek-letter societies did not exist, and when I became connected with an institution where they were somewhat numerous, I had some hesitation, and concluded that the best thing was to stand outside of these organizations and be in right relations with every one of them.

I am prepared to say, after a few years' experience, that the best men in these fraternities are in control—the men of scholarship, the men of highest ideals, the men of the best type of manhood ; and there is a pride in the members of their own societies leading them to work constantly for the good of these societies. They are proud of their men who make fine records as scholars. And not only so ; they are interested in the morals of men, and they labor with them for good character as well as a high type of intellectual life. In this way, I believe there is an advance being made in the fraternity life of our colleges ; the best men are now taking control of these societies, and they are running them for the best interests, social, intellectual, moral, and religious.

Now as to the question of morals. It seems to me that there is a new

force taking hold of our colleges, to make first of all the religious life, and, secondly, the moral life, more sensible, manly, and effective than ever in the past. It grows largely out of the newer sociological studies, and that view of life which is turning Christian men out into the world and upon men. Take, for example, the work being done in our great cities—in New York City. What are we going to do? Shall we go, as some of the noble young college men have gone, down into the very depths, and there accomplish something substantial for the advancement of society?

I want to say that that thought is being taken up in our colleges, and young men are becoming intensely interested, and are giving themselves to this work. Men in colleges are trying to raise money to support men who want to go down in the slums, and so this study, which has ethics in it, is turning the thought of men everywhere to the external world for an exhibition of religious life.

We ought to say a word directly on the relation of students to instructors. It used to be the case that the students looked upon the faculty as their mortal enemies. That tradition is dying out. It dies hard, but there is very good evidence that it is dying out. When students organize themselves for the purpose of suppressing dishonesty in examinations, it is a good indication of a growing, healthful, moral life; when they organize themselves for the suppressing of hazing, it is an indication of a higher moral standard, a sense of manhood, which did not prevail years ago; and when they are glad to associate themselves with the faculty for the discussion and consideration of all those interests that pertain to college life, that, too, is an indication of a higher type of manhood.

So, then, looking generally over the wide field of influences at work upon the character of college students in our time, I am prepared to say there are visible evidences of improvement in the undergraduate life of the American student, in athletics and morals, in student organizations, intercollegiate courtesies, and the relations of students to their instructors.

DISCUSSION.

PRESIDENT BLANCHARD, of Wheaton College, Illinois, dwelt on two points in President Raymond's paper, the question of university settlements in the degraded quarters of large cities, and the question of college fraternities. He thought that it was a mistake to expect any considerable regeneration of society as the result of university settlements. Individuals will be helped by it, but no general effect in the way of improvement is to be expected unless the perennial sources of degradation and evil are reached.

In regard to Greek-letter fraternities, he was sorry President Raymond did not speak more fully in regard to their disadvantages as well as their advantages, and had not referred to such facts as the killing of a student at Cornell University in 1874 at an initiation, the death of another at Yale, the blood poisoning of another at Harvard two years ago, and the branding which has just been made the subject of legislation in the State of Ohio. Take also the arrest and fining of two of the societies at Harvard for maintaining a liquor nuisance. Are these things the abuses or the natural results of secret

society action? A full examination of the record of secret societies in colleges would not show that they are conducing to manhood or scholarship or excellence of any kind.

In this connection he called attention to the recent examination made by a committee of students in Chicago, through extended correspondence with the colleges of the country. In written reports from more than two hundred colleges, it was ascertained that in more than half of this number all fraternities were forbidden. It is also well known that in the organization of the University of Chicago, the latest of our greater universities, after a full discussion, the faculty, while not positively prohibiting fraternities, yet gave their judgment against them, and urged the students not to form them. It is one of the favorable signs of the times that more than a hundred of our higher institutions have forbidden the organization of Greek-letter societies.

REV. DR. C. H. PAYNE, of New York City, said he was disposed to take an optimistic view of the questions relating to the character and improvement of American college undergraduates. However, a precautionary word was necessary in reference to the question of professional or semi-professional athletics, as now existing in our colleges. Anything that will develop a strong physical manhood is to be encouraged, but it is very doubtful whether professional athletics, as carried forward under our institutions to-day, encourage the development of physical manhood. It is more likely to be a hindrance to it. It does not reach the mass of the students. One or two college teams, a base-ball nine, and a foot-ball team, in a college of a thousand students, are not enough to develop the whole body. Dr. Payne's observation was, that interest in the regular gymnastic training and work was not increased in proportion to the interest in these out-door sports, but rather the contrary. Several colleges could be named where the gymnasium has gone down in the presence of the greater interest manifested in the professional games. It is not enough to train a few students when we have a thousand of them. We want some kind of physical training that will affect the whole.

The moral aspect of these great intercollegiate games is a most serious question. If we are to follow President Raymond's principle of securing an environment for students which will make it hard to go wrong and easy to go right, then we shall adopt more vigorous rules within our institutions of learning concerning these games. He could not quite agree with President Raymond that, at the places and days on which these games come to the surface, the general public has a chance to see what is being done; these do not afford a fair criterion of the practical working of the system. It is to be doubted whether any good result comes to the larger colleges which allow these games. It is true that here and there they put forth a man who is pretty good as a scholar, and he is well advertised; but it lies in the nature of things that if you allow a man to go away every week to play games, and sometimes twice a week, you are not going to help scholarship by his absence. It does not favorably affect scholarship, while it does tend to deteriorate the morals of the students. Dr. Payne said that for the last five years he had given careful examination both before and afterward to the condition of things in connection with the great foot-ball game that comes off in New York on Thanksgiving Day, and gave a description of the excesses he had observed. He urged that the deteriorating tendencies connected with these games be vigorously taken in hand by college authorities at once.

ADDRESS ON THE RELATION OF PROFESSIONAL SCHOOLS TO THE UNIVERSITY.

BY HON. SETH LOW, PRESIDENT OF COLUMBIA COLLEGE, NEW YORK.

Mr. President, Ladies and Gentlemen: I am sure I share with you in the keen regret that will be felt at the absence of the president of Princeton, the Rev. Dr. Patton, for he is a master in the domain of higher education, where I am only a learner; and he has, moreover, the gift of eloquent and interesting speech wherewith to express the thoughts which he may have on any subject. I wish it had been possible for me to have

been in the convention during its earlier sessions, so that I might have been able to gather something of the wisdom and something of the spirit that always is to be found in such a meeting; but I was, unfortunately, unable to reach Chicago until yesterday afternoon, so that I have come into your midst as one hardly yet in touch with what has been thus far said and done. Nevertheless, I count it a high privilege to be called to bring you a word of fellowship and goodwill in these deliberations from the city of New York.

The mistake will not be made in this gathering, I am sure, of thinking that New York is notable only for its finance and manufactures. There has been no time since the foundation of the ancient seat of learning with which I have the honor of being connected, when the city of New York would not have been entitled to honorable place in any gathering held in this country to consider the interests of higher education. Nevertheless, the influence of the city upon this ancient institution of the higher education, Columbia College, has been singularly interesting.

In the first place, the cosmopolitan character of the city stamped itself upon the charter which was given to the college by George II. It was provided in that charter that there should be an *ex-officio* membership in the board of governors consisting of the principal clergymen in the city of New York as it then was. And I take it that it is due to that provision that Columbia College is the only one of the colleges dating back of the Revolution, unless it may be the College of Philadelphia, which was a city college, and which has never had any theological seminary in close connection with it. At the same time, the charter of Columbia College provided that no distinction whatsoever should be made toward students on account of their religious belief, a provision which strikes me as singularly worthy of note when one considers that the authorized oaths required of candidates who wished to attend Oxford and Cambridge were only abolished as recently as about 1870. A hundred and fifty years ago the atmosphere of this country was unfriendly to that sort of thing.

Then the influence of the city upon the college, I think, appeared very shortly in another way. Columbia opened its doors in 1754, and in 1767 it established the first medical faculty in the State of New York. In other words, the seed that was planted there was not simply the seed of a college, as we distinguish colleges and universities—not simply a seed that would bring forth its fruit of liberal culture, but it was really the seed of the university that was planted there.

Then there came in 1797 the first chair of law ever established in New York; that was held by Chancellor Kent. And thus, from time to time, one professional school after another has been thrown out from this ancient root, until Columbia College to-day is, perhaps, better known through its professional and higher schools than by the work of its School of Arts, as we call the college proper.

The history of the connection of the college with these professional schools is also interesting. I refer to it, of course, not at all to tell you about our college, but to illustrate this theme in regard to which I was to have spoken if I had been able to be with you in your meeting two days ago. The first medical faculty was established in the college in 1767. In 1807 the College of Physicians and Surgeons was established as an independent medical school, as though medical instruction could be better given free from the entanglements of the university (as they might have said in that day) rather than as an integral part of the work of the university. That idea prevailed so strongly that six or seven years later the medical faculty of Columbia was allowed to resign and become part of the faculty of Physicians and Surgeons, and there remained not even a nominal connection between Columbia and the medical work. In 1860 Columbia once more gave degrees in medicine to the graduates of this school; and within the last two years there has come about a complete reunion, and the College of Physicians and Surgeons is an integral part of Columbia College.

That is interesting because it shows that, from the time at which it was supposed that medical education could be better given in an independent school, we have once more come into the time when it is generally believed that the best medical education is to be found inevitably, one might also say necessarily, in a university. The reasons, I think, are not difficult to see. In the first place, medical education is like all the higher education. It is impossible for it to be self-supporting in the higher grades. The medical professors, who are dependent upon their office, are able to give a medical education that is as good as can be made self-supporting, but it can be no better. Therefore the endowment of the university is of the utmost consequence, it seems to me, in lifting up the course of medical instruction; and it is now a part of our pride at Columbia that the medical instructors hold their chairs upon a salary as independently of the fees of the students as any professors in the whole establishment. That is one direction in which the university must be of great service to the professional school.

In the second place, I think the connection with the university has a very strong influence upon the character of the instruction. If a professional school stands by itself, the inevitable tendency of the school is simply to fit for practice of the profession. Now, surely a university wishes to fit its professional students for the practice of its profession, but it wants to do something more than that. It wants to give them a scientific understanding of the principles and the knowledge upon which the practice of their profession ought to rest. It ought to develop in the student not only the desire to investigate, but it ought to teach him how to do it, and to place at his service the facilities for doing such things; not that every student who comes out from school will become an

investigator, but that some may. You perceive that unless the endowed university offers these privileges and these opportunities, the privilege and the opportunity is not to be had anywhere. That the university should stand for these high ideals is not to say that the professional schools unconnected with the universities have no value. They are distinctly useful in a community like ours. They offer privileges of immense value to many who are unable to attend the others.

But I fall back on the thought with which I started, as one never to be forgotten, that it is surely the duty of the university to offer to the community the best possible education, the best possible scientific education, in every professional direction.

Then, if you look at the curriculum of a professional school, independent of a university, you will find it, I think, in almost every case, like the old college curriculum : a certain fixed thing, which every student is pledged to take. I take it that the university carries the idea of specialization into the professional school in a helpful way, further than it could be when it is not connected with the university. Of course, there is the irreducible minimum with which every one who tries to practice the profession must be familiar, but it is outside of that that the university gives every opportunity for specializing and carrying one's special talents into the utmost reaches that are known. That again is a service that we must look for entirely to the university. It alone has the facilities, the library, the apparatus, and perhaps it alone can best command the men who are capable of serving as guides in that direction. There is, therefore, a freedom or largeness of opportunity, or ought to be, in connection with the professional schools attached to a university, that is not to be found outside.

Now, as to how these schools of the universities should be most helpfully united—that is a question that I ought not to enter upon at the present time. There is no opportunity to discuss that, nor would we find any unanimity of opinion on a point that involves so many details ; but I am sure that there would be no substantial difference among university men as to the great service of the university.

Perhaps there is one indefinite service that is not the least of all ; that is to say, that it leads men to study the profession in the same scholarly atmosphere in which a man obtains his liberal education. It seems to me that one of the most important effects that can be produced upon any man comes from witnessing other men laboring just as hard and just as earnestly to learn something else of which he knows nothing, and for which he cares little or nothing, as he is laboring in the line of his chosen work. It gives a certain capacity of mind that is not to be found in any other way. Therefore, for all these reasons, I should say that the professional school in connection with the university does offer, should offer, the best opportunity for obtaining a professional education.

THE EVOLUTION OF LIBERAL EDUCATION.

BY PROFESSOR ANDREW F. WEST, OF PRINCETON UNIVERSITY.

I.

AN answer to the question, What properly constitutes a liberal education? may, like solutions to other educational problems, be attempted in three ways, which may be styled the practical, the theoretical and the historical. The first attempts the answer by examining present educational practice, including both the existing institutions and the operative ideas therein embodied. Even if the enormous labor properly involved in collecting and classifying what is necessary to a true description of our educational practice were performed, the answer obtainable would be an unsatisfactory one. A view of the state of education at any one instant of history is too limited to serve as the basis of a theory which, to be true, must comprehend all the salient facts of history; and too limited also for us to be sure that it is representative of the whole of history. Accordingly this method may be set aside, not as being useless, but as unpromising when taken alone.

The second way of attempting an answer is the theoretical. Theorizing is always pleasant, usually dangerous, but at intervals safe and necessary. It cannot be ignored. If we are not seeking a sound theory of education, we are not acting rationally, and our educational activity will suffer accordingly. Even if we should go so far as to concede that a comprehensive theory of liberal education is at present unattainable, we might still hold with Kant that "we are not to consider the idea chimerical and denounce it as an idle dream, even when obstacles appear in the way of its realization." *

We do not yield to the notion that because there is as yet no doctrine of education which amounts to a science, the study of education does not promise well, and urge that the study of education is becoming a science and that education itself is already a great art, and therefore, from both points of view, a fit subject for high ideal study. We may, however, freely admit that the most convincing single method at the present time is not the theoretical. For a theoretical solution, if it is to be a true one in education, must receive its data from the other sciences on which a science of education will depend; namely, physiology, psychology, and ethics; and these sciences, though constant contributors of late, have yielded a contribution insufficient for theoretical construction on any general scale. Nor may we expect that they will begin to satisfy us until their own inductions are reduced to greater exactness and likewise made more extensive. It is still early in the world's history to expect this.

* "Ueber Paedagogik."

The remaining method is the historical, and, for the problem of liberal education, the most promising. The idea of liberal education emerged early in the history of Western culture, and we have a fairly continuous record of its outworking from its first manifestation to the present time. It is reasonable to suppose that an idea which has been unfolding for nearly twenty-five centuries, and has been potent in preserving and diffusing enlightenment and stimulating the love of truth through all that time, should afford us some light from its record both as to the ideal toward which its outworking tends and as to what are its constituent elements.

II.

The concept of liberal education originated among the Greeks, and gives continuity to the history of liberal education since their time. They were the first to coördinate what they called *ἐγκύκλιος παιδεία*, an "all-round education." By this they meant a training in selected studies of the most central character, so as to secure harmonious wholeness or integrity of intellectual culture. They sought a general gymnastic of the mind for the sake of the mind, and not for any extraneous utility. This view of the material and method of liberal education, however, was not the whole of their concept. If it were, then there might be several, perhaps many kinds of general culture. But with that instinct for ideal unity and perfection which appears in everything they touched, they determined what ingredients should enter into their method and material of instruction by determining the ideal end of liberal education. This was what we inexactly name Virtue (*ἀρετή*), or, as they meant it, the highest manhood, or *ἀρετή κατὰ γένος*, the highest excellence of the individual according to his kind—that is, as a man. If it could be ascertained in what this highest excellence consisted, then the method and material of instruction which would develop it would be the method and material of liberal education. Now, to their best thinkers the attainment of *ἀρετή* was inseparable from knowledge. "All men naturally desire knowledge," is Aristotle's opening sentence in his "Metaphysics" and a commonplace of philosophy ever since. The desire for knowledge is constitutional, and on this the possibility of educating depends. But to be liberalizing, knowledge must lead to virtue. The ideal knowledge, then, was that fine blending of theory and practice which served the individual both toward the understanding and the doing of the truth. It was *σοφία*, Wisdom, the guide of thought and the guide of life. And so we can hardly wonder at their frequent identification of knowledge and virtue, and wisdom and virtue. The divorce of theoretical and practical, either inside any sphere of knowledge or conduct, or between knowledge and conduct as wholes, would have seemed to them utterly irrational.

The discipline of youth in knowledge until they attained the character of enlightened and virtuous men, sure to go on spontaneously in the dis-

covery and use of truth, being by that time imbued with *φιλοσοφία*—the love of it—was the Greek idea of the school training of youth which would lead to the best manhood. Their whole concept is indicated in the Pythagorean saying, *Πρὸ φιλοσοφίας παιδεία*—first education, then philosophy. First discipline in the central categories of the best knowledge, then free research into all knowledge. First the school, then the university.

Out of these presuppositions there naturally grew up the idea of a logical sequence and coördination of studies to achieve this end—that is, of a curriculum. That there should be one finest way of doing this, to which other ways were at best approximations, needed to them no demonstration. “Truth is one and only one, and error is manifold,” is their reasoning from Pythagoras onward. The only question, then, remaining to settle was what studies properly fill out the form of this ideal curriculum. The Greeks discovered and determined the ideal form of liberal culture, and, if history means anything, they have determined the form once for all. The race has been progressively determining the content ever since.

The first body of studies which thus gradually arranged itself passed over to Rome, and then crystallized with some shrinkage in the early middle ages into the famous “seven liberal arts” wherein all medieval education centered. Whatever condemnation is to be passed upon the barren technical subtleties of the medieval mind, let us not charge these defects to the seven arts, but to the natural behavior of minds exercising themselves almost solely on the forms of knowledge—a logical thing, by the way, in the evolution of the modern world. Nor should their defects be charged to Christianity; scarcely to ecclesiasticism. The semi-barbarous European mind was beginning to be schooled *de novo*. The seven arts, while devoid of the living expression of ancient liberal culture, presented at least a recognizable outline of the features, and thus preserved some continuity. What were these arts? Grammar, rhetoric, and logic were the first three to be pursued. By grammar, their best teachers, though not the most of them, meant both strict grammar (Latin, of course) and the study of the literature. It was the inevitable first study, the *nutrix infantiae*, the induction into the art of correct expression. Then came rhetoric, springing out of grammar, leading to the study of style and also analysis of themes, and thus bridging the way to logic, the art of correct thinking. Such was in concept the trivium, a coherent arrangement corresponding to the order of a scholar’s mental development and the sequence of ideas in the studies themselves. It combined the *artes sermocinales*, the arts concerned with expression. Following the trivium came the four arts, usually called “disciplines” or “sciences,” sometimes “mathematics.” They made the quadrivium. The opening study was arithmetic, defined by Rabanus Maurus, the great preceptor of Fulda, as “the study of numerical quantity,” and the generic “mathematical discipline.” It

bore the same introductory relation to the quadrivium which grammar bore to the trivium. The others were music, geometry, and astronomy—names which mean to us somewhat different things. For their scheme of sciences on the nature side was of course hopelessly crude. Their arithmetic oddly but not unnaturally included chronology; optics came under geometry, geography under geometry, and acoustics under music—things afterward differentiated from what they had been awkwardly attached to at first. But though the scheme was in an embryonic stage, structural lines were appearing, and, most important of all, two distinctions were spontaneously recognized. The first was the distinction between the trivium, or the humanities, and the quadrivium, or the nature studies, the *artes reales*. The second was the order in which these were to be pursued as liberal studies, the humanistic studies coming before the sciences. The seven arts completed, then came “philosophy,” to combine and coördinate trivium and quadrivium in a higher union, thus constituting the great triad that lasts still.

The age of scholasticism was the best of the middle ages. It founded our universities. “The priceless pearl of knowledge is sought in the scholastic field,” is the characteristic opening of many a medieval university document. That ideal knowledge rested on the seven arts, and was philosophy, and its language was Latin.

Was not this outline, though meagerly bodied and crudely colored, a noble one? At worst, was it not the damaged skeleton of the ancient living form, but still the reminder of its true structure? New life had to be breathed into these bones that they might live again, and in the Revival of Learning this happened.

The spirit of the Greeks revived, and humanism arose to clothe the lifeless skeleton with living tissues. But only in part. In its reaction against the barbarous Latin and barren formalism of scholasticism it plunged into Greek antiquity and filled literary studies with new life. It really developed the trivium. Its legacy is the humanistic studies, and its language is Greek. No new movement comparable to the humanistic revival appears in the modern world until we approach the nineteenth century, the age of science. Modern sciences—physical, natural, social, political—are the educational material developed in our age. Science has developed the quadrivium, formerly inchoate and feeble. Its gift to education is itself, and it speaks in the modern tongues.

Here we may sum up our results. Western liberal education has gone through stages as marked as the stages of life in an individual or the history of types in biology. The ancient world spontaneously evolves a concept of liberal education which it hands down to medieval times. The form lingered, though the spirit, if not dead, was sleeping. The ancient form consisted of the humanities and sciences coördinated in one scheme and issuing in philosophy. Scholasticism awakened the philosophic sense,

using Latin. The modern age first developed humanistic studies through the medium of Greek, and then developed science with its polyglot corollary, of which the chief constituents are French, German and English.

We have, therefore, come to a time in the history of education when a scheme of studies must be followed either by synthesis from the lessons of history or by selection from that synthesis. Synthesis alone will give the completest culture, if evolution means anything. It is not a final or perfect synthesis we seek, but a view of the best thus far. The only question to be settled is a practical one, it seems to me. Have we time to do this? If not, we must make a selection out of our historical elements, and get along with a recognizably imperfect scheme. But I believe we have time. Much of school time is wasted now for those who would prepare for university studies. We can save enough to admit of a liberal culture including all the great historical elements. Reducing these to a tentative ideal scheme, we get the following curriculum for a liberal education:

I. The humanities—consisting of the mother tongue and foreign languages and literatures. The foreign tongues include Greek and Latin, fundamental to Western culture as a whole, and the continental languages as useful to present culture.

II. The sciences—mathematical, natural, sociological.

III. The elements of philosophy.

Such an education should be attempted whole, and kept separate, one, distinguishable by its own degree. It will vindicate itself.

I have not touched, and do not mean here to enter upon, the boundless theme of the influence of Christianity in liberal education. But is it too much to expect that, under the university charter-words of our faith: "Whatsoever things are true, honest, just, lovely—think on these things," we may see a new epoch, finer even than that time when, as Shelley beautifully tells us, Freedom spoke—

"And like a sunrise from the sea
Athens arose."

DISCUSSION.

PROFESSOR HALE agreed with the results of the last paper. One question, however, troubled him in regard to its practical solution. In a scheme which will embrace beginning in Greek and Latin, beginning in French and German, and beginning in science, mathematical, natural, and sociological, it is important to know how far the sciences could be carried. This is a great practical problem. We cannot possibly have an education which shall dispense with training on the scientific side, as it is called. However, using the word science in its ordinary sense, how far does Professor West think we can go in requiring it for everybody who is to be liberally educated?

Professor West thought it quite practicable, as well as necessary, to include a general discipline in science in any proposed scheme of liberal education. The question to be answered is: What sciences, and how much of each of them, are to enter into such a scheme? To settle this we must draw up a scale of the sciences, dividing them first

into pure or theoretical sciences, and mixed or applied sciences. Then arranging the theoretical sciences according to their historical development and logical connections, we shall put first in the series mathematics, the science of abstract relations. Then built on mathematics will come mechanics, serving as a bridge to that vast science we call physics. Then on top of physics will come chemistry, and on top of chemistry, if it were as fully developed for teaching purposes, would be placed biology. The scale of pure sciences is thus, roughly, mathematics, physics, chemistry, and biology. Then there are the mixed, or, as they might be styled, the applied sciences, such as astronomy and geology. We must keep for the Bachelor's degree at least the elements of mathematics, mechanics, physics, chemistry; and as soon as biology reaches a development and attains a body of doctrine so that its elements are capable of dogmatic inculcation, biology should be included as a required subject for the Bachelor of Arts degree. Room can be found for the elements of the pure or theoretical sciences as a complete body, but it is doubtful whether there is room for any more.

PROFESSOR HALE wished to inquire whether it were possible to prepare a young man, say in Chicago high-schools, for the strongest universities, giving him, besides his mathematics, classics, and modern languages, physics and chemistry also.

MR. FRENCH, of the Hyde Park High School, answered that they were now attempting to do this in the high-schools.

PROFESSOR HALE thought that the saving of time which might be effected in the lower schools would yet make possible all that he hoped for, and Professor West asked for, and thought that the solution would be found in this direction.

PRESIDENT JORDAN, of Stanford University, said he had listened with great interest to the discussion. He did not agree with the reader of the paper in regard to the lessons to be drawn for our own time. He did not agree with Professor West's remark that instruction in biology would be suitable for his proposed course of study, when biology became dogmatic, when it had a groundwork of doctrine which could be taught and learned by heart from a text-book. President Jordan referred to a paper which had recently come under his notice, which took the ground that only those subjects are fitted for training the mind which have no groundwork of dogma; that is, in which the student must find out the truths and facts for himself. It is this which gives the undeveloped and unsettled sciences an enormous value for educational purposes over those which are settled.

PROFESSOR WEST said, in reference to the dogmatic teaching of science, that it was difficult to conceive how anything could be learned at the start, even the alphabet, without its being in a sense dogmatically inculcated. It was difficult indeed to see how we are to learn anything, without beginning with some body of provisionally received truth. The atomic theory in chemistry, for example, like the elements of anything else, is to be received at the start as a working basis, or else the student must quit study. What he thus provisionally receives is to be tested by experience. Applying this to biology, it does not seem to be the fact that the doctrine of evolution is yet formulated with such precision that the elements of biology can be as profitably taught as the elements of the older sciences which have had complete development.

PRESIDENT BLANCHARD, of Wheaton College, held that the likenesses among men were far more important than their differences, and that the likenesses among men called for culture and training just as much as their differences. While every man is to have his special occupation, every man before he has an occupation ought to be a man, and ought never to lose his general humanity in his profession. It does seem that a man who is to be a biologist, and is never compelled to learn anything in his preliminary education for which he has not a natural aptitude and which he would not himself naturally choose, is in danger of becoming a man with a narrow horizon. On the other hand, if while he is in the elementary stages of his training he could be required to learn some things which naturally he would not choose to learn, and develop those parts of his mind where he is naturally weak, then he will in this way attain a certain intellectual symmetry, and will by and by exert far more intellectual power in his specialty than he could possibly do if he were to omit everything which he does not wish to study from the beginning of his training.

The advocates of the old education do not at all object to special training. They do not object to special courses for specialists; but what they do object to is the present

tendency to omit all common elements, and undertake to train men on their differences. The duties of men in society, in the home, in the state, in their religious relations, are as important as the relations they sustain to one another as chemists, biologists, as instructors in technical schools, or practitioners of any other technical art. If this be so, then to begin by omitting all education of the general elements in humanity, and to lay out a line of instruction intended to develop only particular elements, in which each man may be superior to some of his fellows, is not an improvement in education, but a sort of return to barbarism.

PROFESSOR SANFORD, of Stanford University, thought the whole question was whether we ought to train for symmetrical development or for effective development. A good deal could be said on the side of training a man where he will be worth more, instead of putting our application to develop powers he never had. It certainly makes a great difference as to the effect of the work we do, whether we give him a chance to develop faculties he has, or whether we try to make a mathematician of one who has not the mathematical sense at all. We all know that most men are weak in certain lines. There is some line in which they have no taste, and in which they cannot do anything. The result of years of training in mathematics may be such that some are heartily glad when they get through with it. When a man has studied anything four years and is glad to get through with it, it seems better for him never to have studied it at all. A study which will lead a man to dislike a subject, is a study that is bad.

In regard to the dogmatic teaching of science, it would be hard to find a good professor of science who would maintain that the general principles of a science must first be taught dogmatically, and afterwards be proved by experiment. This is not the modern method. It is not the feeling of teachers of science.

ON WHAT CONDITIONS SHOULD THE DEGREE OF DOCTOR OF PHILOSOPHY BE GIVEN?

BY WILLIAM O. SPROULL, DEAN OF THE UNIVERSITY OF CINCINNATI,
OHIO.

OF all literary degrees, that of Doctor of Philosophy carries with it the greatest weight. It is generally believed that the possessor thereof has done something to merit the distinction. On account of the importance which it bestows upon one, and on account of the vain custom now prevailing of addressing by the title *Doctor* those thus distinguished, many exert themselves to obtain this degree as quickly and as easily as possible. Unfortunately, there are institutions ready to meet this demand, which by their charters are authorized to confer all academic degrees. Unless some check be applied, the degree of Ph.D. will become as common as some others, and those who are justly entitled thereto will be far outnumbered by those who sought and obtained it in some expeditious way, solely for the purpose of gratifying their vanity.

That this degree be not debased, two things are necessary: (1) That there be essential agreement as to the conditions on which it should be given; and (2) that only such institutions confer this degree as are properly manned and equipped.

As to the conditions, it will be best to refer to those laid down by the universities of Germany. In general they are as follows: (1) The triennium; i.e., three years' residence at German universities. (2) The preparation of a dissertation, involving original work, afterward to be

printed. (3) An oral examination in one major and in two minor subjects. There is not, however, uniformity in Germany. At Heidelberg no dissertation is required. At other places the dissertation need not be printed, but the manuscript becomes the property of the university. In Berlin the candidate must be prepared to discuss his dissertation publicly, and to defend the theses appended. There are also other differences of less value. If Professor Mommsen's charges, published in the *Preussisches Jahrbuch* (April, 1876, page 335), are true now, the degree can be procured from universities, which he names, merely on payment of the usual fees. Perhaps the following anecdote in circulation among German students confirms this: The birthday of Herr Johann Schmidt was approaching. His wife was determined to make the occasion memorable, and to this end carefully saved up her pin-money. On the morning of the day, she, followed by the household, took her husband by the hand and led him into the corridor. Exultingly, yet with certain solemnity, she handed him a ponderous document, and pointed to a new door-plate on which was engraved: "Herr Johann Schmidt, *Doctor der Philosophie*." We should suggest that the conditions already mentioned be modified as follows, and be required by all institutions conferring the degree: (1) The candidate must have received a Bachelor's degree. (2) A residence of two years. (3) The presentation and acceptance of a dissertation involving original work. This dissertation, if accepted, must be in every case printed, bearing the names of the professors by whom it had been accepted. (4) An oral examination in one major and two minor subjects, to be conducted by at least three professors.

Two years' residence should be considered as the equivalent of the German triennium, for our college graduates are at least a year in advance of those leaving the German gymnasium; and, moreover, American students take the degree in Germany in three years without great difficulty, although they may have gone thither without any previous knowledge of the language. In reality they may not have been able to devote more than two years to their special studies.

In the third condition, it should be insisted upon that the dissertation be printed with the names of those who accepted it. This last, we think, ought never to be omitted. A professor can shield himself behind the college or university and deny responsibility. This cannot be done if the dissertation bear his name. It will make a great difference to many a professor, as to the acceptance or rejection of a manuscript, if it is to be deposited in the archives, or given to the world with his indorsement. Inasmuch as the degree Ph.D. has been for a long time given for attainments in philosophy, language, or science, it is not a good plan to increase the number of degrees by such additions as Doctor of Science and Doctor of Letters.

Several questions suggest themselves in connection with the fourth con-

dition : Should the examination be oral or written ? Should it be in one or two subjects ? Should these subjects be in the same or different departments ? Should the examination in the different subjects be conducted by different professors ? We answer : The examination should be oral, for the dissertation is equivalent to a written one. It should be in three subjects, so that the student, although specializing, may not become one-sided in his specialty. The subjects should be in the same general field. The examination, even in a minor, should not be delegated to one of the other examiners, although competent. It detracts from the dignity of the occasion and of the subject, that any other than the professor in charge should perform this duty.

If these conditions were required of candidates by institutions properly qualified to engage in this advanced work, the dignity and worth of the degree would be maintained and even enhanced.

The giving of the degree *in absentia*—i.e., after a certain amount of private study, and on the presentation of a dissertation—cannot be sanctioned. Although some would in this way do meritorious work, yet the opportunity for abuse is so great that no concession in this respect should be made. Ought the degree to be given *honoris causa* ? We answer *No*. On the other hand, we cannot see why certain exceptions should not be made. In many faculties there can be found professors without this degree who, nevertheless, have done original work, who are authorities in their subjects, and who themselves pass upon candidates for this degree. It would be ridiculous to expect them to comply with the conditions required of others. Exceptions could properly be made in such cases.

The second proposition is by far the most important. It matters not what conditions are nominally imposed, this degree cannot be guarded so long as an institution, without reference to its qualifications, can and does bestow it. This does not mean the outright selling of the degree. There are, however, so many colleges ambitious beyond their ability, that they are not satisfied with any narrow bounds. Not only must a faculty consist of men competent to conduct this work ; it must also be large enough, so that the proper amount of time and energy can be devoted thereto. If the undergraduate classes occupy nearly all of a professor's time, he is not able, no matter how competent, to give to advanced students that individual attention they should have. Both of these cannot be done. If attempted, one or both will be slighted, and the institution will suffer.

How can a check be put upon such institutions ? No legal enactment is possible. It must be done by public opinion. There ought to be organized a body consisting of the presidents or executive heads of the leading institutions, which would meet at stated times to discuss and pass upon various questions connected with colleges and universities. Some journal or magazine should be selected as its organ, or, at least, medium of communication with the public. This question, among the many others,

should be discussed by that body and answered ; namely : What institutions in the United States are qualified to confer the degree of Doctor of Philosophy ? This list, increased or perhaps diminished from time to time, is to be made known in the journal selected. Likewise there should be published each year the names of all successful candidates, with the names of the institutions respectively, the titles of the dissertations, and the subjects in which examinations were held. Such action would be the greatest check to the degradation of this degree. Candidates would hesitate long before applying to an institution which had not been approved by this board, and institutions would correct abuses, and seek to obtain its recognition. The public would be enabled in some degree to ascertain who procured their degree in some mysterious way, and who, on the other hand, were adjudged worthy thereof by institutions properly accredited. This organization should embrace also other institutions not conferring graduate degrees, for most of the questions that need to be carefully considered pertain to undergraduate work. The organization should be careful, however, to form rules for its own protection. It need scarcely be said that this body could exercise no authority in the matter under discussion. Its duty would be to designate certain institutions competent in certain departments to do this higher work, without any reference to other institutions making the same claim. These latter may or may not ask that their qualifications also be considered. If the actions of such a body be conducted with great deliberation and fairness ; if its members can judge questions without a bias in behalf of their own institutions ; if they stand for and honestly act as representatives of higher education, and not as those seeking to further the interests of this or that college or university, there will soon reign order instead of chaos ; their decisions will be looked upon by the public as final, and higher education, with all pertaining thereto, will be raised to a plane far above that on which it now stands.

DISCUSSION.

PRESIDENT GATES, of Iowa College, Iowa, thought the suggestion of the paper a bold one, that we should so far depart from our American tradition as to form some kind of an organization, to have an organ, and determine what institutions shall confer the doctor's degree, and which shall not. He did not know whether such a course was feasible, but would be very glad if the discussion could take a line which would indicate some such possibility.

He had looked into the possibilities concerning legal action. There is no hope in that direction. There seems to be nothing left but an informal, non-legal organization, such as has been recommended. Those who live in the East have, of course, their own problems to face, but they seem to be ignorant of the struggles which educators in the West have on hand at this point. They not only do not appreciate the situation, but they do not seem to be aware of it. There are many people who have in some way gotten the degree of Bachelor of Arts who could not get into the freshman class of a respectable college.

As for the higher degree of Doctor, surely if there is a degree which in scholastic circles should be honored by being kept pure, it is the degree of Doctor of Philosophy.

It is being given unworthily; it is being given for studies *in absentia*. There is an institution in the State of Illinois which has put out a paper saying that it will give the degree for one or two years' work *in absentia*, sometimes with an oral examination, and sometimes without it. There is another institution in Iowa, where the graduates, in their annual meeting, have had to implore the authorities to put a stop to the practice of giving the degree of Ph.D. for a little work, and the sending in of a thesis which might be copied out of the magazines. Apparently the only way in which institutions can at present protect themselves is to put after the degree the name of the institution conferring it.

PROFESSOR FISHER, of Wheaton College, Illinois, said he wished to emphasize the last speaker's words. He unfortunately belonged to a college that had advertised this degree for study *in absentia*, though he was happy to say that the conditions had been placed so high that no one has come and asked that he might do the work and receive the degree. There are institutions in Illinois that have conferred the degree for study *in absentia*, and they continue to do it. It would be well for the real universities of the country to have some plan of concerted action so as to protect the colleges against the importunities of degree seekers.

PROFESSOR HALE thought the evil had been pointed out fully and courageously. There was no reason why we should not boldly mention names. He knew of two institutions, Syracuse University in New York and Allegheny College in Pennsylvania, which granted this degree without residence. The practice is absolutely indefensible, and is working great injury. Perhaps resolutions adopted by this body, if adopted by the great majority, would be valuable.

PRESIDENT GILMAN called attention to the fact that the American Philological Association had passed resolutions endeavoring to arrest public attention and awaken public sentiment upon this matter. It might be well to appoint a committee of this Congress to correspond and co-operate with other bodies with a view to protecting the Doctor's degree. The requirements for such a degree are, in a sense, matters of detail; but it is clear that the degree, to be maintained in its dignity, ought to stand for higher work done in our universities, through a prolonged period, under competent men, with access to suitable laboratories and libraries.

PRESIDENT BLANCHARD agreed in deprecating the too common practice of conferring degrees upon persons who are unworthy of them. Still, the main stress of the argument in this matter did not, in his judgment, lie so much between residence and non-residence at universities as between merit and demerit. If a degree is merited, it is a credit to the institution which confers it, and to the person who receives it, no matter how he may have got the attainments which have called forth that recommendation; and if a degree was not merited, it does not make any difference, for it is a discredit to the institution which confers it, and also to the person who receives it.

On motion of President Gilman, seconded by President Gates of Iowa College and Professor Hale of the University of Chicago, the following resolution was then unanimously adopted:

Resolved, That a committee of this section be appointed to correspond and co-operate with committees of other educational and scientific bodies, which have been or may be appointed, to protect the significance of the degree of Doctor of Philosophy and Doctor of Science.

It was moved by Professor West that the Chairmen printed in the programme of the sessions of this Congress be appointed such a committee, and that the committee have power to add to their number.

The motion was unanimously adopted. The members of the committee elected under the resolution of the Congress are as follows:

- President Gilman, of Johns Hopkins University, *Chairman*;
- President Angell, of the University of Michigan;
- President Dwight, of Yale University;
- President Harper, of the University of Chicago;
- President Low, of Columbia College;
- President Patton, of Princeton University.

THE RELATION OF OUR COLLEGES AND UNIVERSITIES
TO THE ADVANCEMENT OF OUR CIVILIZATION.

BY RT. REV. JOHN J. KEANE, D.D., LL.D.

DR. DAVIDSON, in his excellent work on "Aristotle as an Educator," has clearly shown the difference between the notions attached to the words *civilization* and *education* during the era of the Græco-Roman civilization, and their meaning in the Christian era, or the era of Christian civilization.

In the Græco-Roman era, civilization meant, as the etymology of the word indicates, advancement or perfection in the qualities which make a citizen. *Citizen* was a higher notion than *man*; relation to the state was the highest of human relationships. Accordingly, education meant the training of the young in those qualities which fit for citizenship. And as citizenship was the privilege of the few, and citizens formed but a small proportion of the population, it followed that civilization and education were limited to the few.

Christianity brought into the world not a less noble notion of the citizen, but a far nobler notion of man; and the notions of civilization and of education were modified accordingly. The immortality of man's soul, its direct relations with the infinite and eternal God, gave to man's being and destiny a dignity which the Græco-Roman mind had totally failed to grasp. Man was still a social being, not as accidentally growing up thereto from savage or brutal conditions, but as meant and fitted for that condition by his Creator; and thus the character and the rights and the obligations of citizenship were invested with a sacredness far beyond that involved in the Greek or Roman conception of the state. But sacred and important as are man's relationships with his fellow-mortals in those things which concern the welfare of their temporary sojourn here, still more important are those relationships shown to be which unite him with them and with his Creator in regard to those things which concern man's eternal destiny. Man, therefore, means more than the citizen; human life means more and higher things than the relation to the state called citizenship. Citizenship had risen in dignity and sacredness, but man had risen incomparably higher.

So, too, has it been with the notions of civilization and education. Civilization has expanded beyond the boundaries of its mere verbal etymology, and has come to mean development, and, if possible, perfection in all those qualities which constitute the excellence and dignity of man. And, accordingly, education has come to mean the training of the young, not only in those qualities which fit them for their rights and duties as citizens, but also in those which fit them for all their other relation-

ships as social beings, and in those which pertain to their immortal destiny and to their relationship with God ; in a word, it means cultivation in all those things which pertain to the fullest development of man, viewed in the light of all his being, all his relationships, all his rights, and all his duties. This development may require various agencies for its accomplishment, but it is all included in the true notion of education as understood in Christian civilization ; and whatever the agencies co-operating toward it, they are all working for a common end, and ought to work together harmoniously. They are co-operating to make the good citizen, but, more than that, they are co-operating for the fuller and higher perfection that makes the good man ; and to such a degree does the lower depend upon the higher, in which it is comprised, that the best way to secure the highest civilization and the best citizenship is to be careful for the development of the qualities which make the best man.

This idea, given in Christian civilization, has long had to struggle with the surviving notions of the old civilization and of the barbarism which overthrew it. It is struggling with them in many parts of the world to-day. The glamour of martial glory that surrounded the old imperialism still has its charm for certain minds, and authors more highly gifted with imagination than with philosophy have bewailed the advent of Christianity as the introduction of a lower ideal. But clear-sighted reason must eventually shake itself free from every such fascination, and must recognize that the ideal of man and of humanity, of the state and of all civil and social rights, duties, and relationships, which is presented by Christian civilization, is far higher than any ideal the world ever had before Christianity appeared on earth. To strive toward that ideal, no matter how laboriously, no matter how slowly and through how many difficulties, is the destiny of the world, and the duty of every nation, and every community, and every individual that goes to make up the world. Advance in its realization is advance in civilization.

Without any intention of inordinate self-exaltation, and still less with any intention of disparaging any other nation, we may still venture to assert, in all thankfulness to God, and to the good and noble men who were His instruments in the formulation of our country and principles, that the American ideal comes closer to the ideal embodied in Christian civilization than does that of any other national organization that we know of. The American ideal of the relation between the citizen and the man is the truest ; therefore our ideals of civilization and of education should also be the truest. Other nations may show more of artistic genius and skill in bodying forth forms of beauty in marble, on canvas, or in artistic expression of lofty thoughts, whether in poetry or prose. None of these things do we undervalue ; we acknowledge that they are integral elements in the full development of civilization ; we are resolved not to neglect them ; nay, more, in as far as they belong to real advance

in civilization—for sometimes, alas ! they assume forms which indicate its decay—thus far, and, please God, no farther, we are trustfully determined, as our World's Fair sufficiently indicates, that we shall yet attain to such artistic excellence too. But meanwhile we are content to know that these are only the external vesture and adornments of civilization ; that its essence lies deeper and higher far than that ; and that essence we believe that we hold in our ideal of the citizen and the man.

But we have lately heard a note of warning which no American who loves his country can afford to ignore. The warning I allude to came to us from Mr. Gladstone. Viewing the magnificent proportions which our country is sure to assume within the next century, and forecasting the tremendous influence which she must necessarily exert on the civilized world, he reminds us that this influence may be either a curse or a blessing to mankind, according to the spirit in which it is exerted. He asks which is it to be ? And he answers : “ This depends not on what sort of a producer, but on what sort of a man, the American of the future is to be.” His answer is not only a forcible assertion of all that has just been said about the true notion of civilization, but is also a solemn warning lest we overlook it ; perhaps, even, a friendly intimation of his dread lest, in our eager, almost feverish, endeavor to master and develop our country's wondrous resources, we may have been intent on forming “ producers ” rather than on forming “ men.” This, we can easily recognize, would be the destruction of the civilization which is our country's birthright and destiny. As man means more than citizen, *a fortiori* man means more than producer. To forget this, to fall to so low an aim and ideal, would be not only to fall back to the insufficient Græco-Roman ideal, but to fall far below it. Our civilization depends on our bearing this in mind, and shaping our ideal and system of education accordingly.

What, then, does all this mean practically ? We have seen that the difference in the systems of civilization arises from their different estimate of man—from a difference of philosophy concerning man. Human action is governed by ideas : a wrong philosophy must be the bane of a people ; a true philosophy, in as far as action is shaped by it, is the security of nobleness and prosperity. Hence the all-important thing is to make sure that we hold the right philosophy concerning man, and that the rising generations be molded in it both as to their intellectual convictions and as to all their practical aims in life. But history and reason both show manifestly that the only such philosophy concerning man is that which is embodied in the Christian religion. Therefore, practically, the right molding of our people, the right shaping of our civilization, the right directing of our nation's energies, and the right attaining of her destiny depend on this, that our people's ideas should be shaped and their lives molded in the philosophy embodied in the Christian religion. If logic leads to any conclusion, it leads to this.

But now see the shape which this assumes for us college and university men. During the period of primary education, this molding of ideas and character, this shaping and directing of life, may largely be accomplished by the agencies of home and of Church. But in proportion as the youth advances to manhood, and not only learns to think for himself, but insists on thinking for himself, the result must largely, even chiefly, depend on the agencies which train him to think, which supply him with most of what he thinks about, which with almost irresistible, all-pervading influence, gives shape and color and direction to his thinking; and these agencies are, unquestionably, chiefly comprised in his college, his university. Nay, more, he who goes forth as the alumnus of a college or university of note must naturally be expected to be a man of more than ordinary influence in the community. Of him we must ask what Gladstone asks about our country: What will be the manner of his influence on his fellow-men? And we must likewise answer: That depends on the kind of a man his university has made him. And thus we are led, by step after step of inexorable logic, to the conclusion which so intimately concerns us, that the shaping of our civilization must very largely depend on our colleges and universities; that the character of that shaping must depend on the character of the philosophy which prevails in them; that no philosophy can rightly mold humanity, save the philosophy of the Christian religion; and that, therefore, the sound development of our civilization must largely depend on the reign and influence of the Christian religion—from which that philosophy is inseparable—in our colleges and universities.

How to bring this into practical shape and working may often be rendered difficult by local circumstances. But there is a great advance toward the solution of the momentous problem if these truths themselves are clearly and strongly grasped. We must aim at forming skilful producers; we must aim at forming worthy and loyal citizens; but above all this, and as the means and condition for all this, we must aim at forming the truest type of men; and the only efficient way for the attainment of this, the only way which, after all the experience of history, we ought to think it worth our while to try, is the way which God has taught the world through Jesus Christ.

CLOSING ADDRESS.

BY PRESIDENT JAMES B. ANGELL, OF THE UNIVERSITY OF MICHIGAN.

The committee, in communicating the invitation with which they honored me, to occupy a few moments here to-day, intimated their desire that whatever should be spoken should have more or less direct connection with the question of patriotism; and it has seemed to me, especially

after hearing the paper of Bishop Keane, which has laid so broad a foundation of the general subject of education, that perhaps I could not do better, especially in this section devoted to higher education, than to drop two or three hints upon the points which especially concern us who are connected with college and university work. These hints have been stirred in my own mind by criticisms which I have often heard, and which I do not doubt you have all heard, upon the great liberality with which institutions of higher learning have been established and supported, whether by private munificence or the resources of the state. I have heard it intimated more than once, by those who are so justly zealous in the support of our great and free system of public education, which we all believe is destined to endure to the end of time, and in commendation of which no words can be too strong—I have heard it intimated more than once, that while it may be very wise for the states and for citizens to pour out their treasures in the support of these schools, which go to educate the great masses of the people, and to give them that necessary outfit for citizenship which we all believe every person should possess, that these institutions of higher education, if not an absolute luxury, have not that close relation with the great duties of citizenship or with the prosperity and welfare of our country, that we so gladly ascribe to the system of our lower schools. Now, it seems to me that that is a most injurious and incorrect view of the subject. I shall not attempt to discuss the points at length which I shall raise, because in this presence I am sure prolonged discussion of them is not at all needful. You are all well aware—we may say this at the outset to such critics—you are all well aware that, historically, the great institutions of higher learning have in all lands preceded the growth of public common education. These are the fountains from which the streams have flowed forth and irrigated and fertilized these humble schools. That statement, I think, cannot be challenged.

I wish, also, in the next place, to call your attention to this fact, that there is a conception which seems to lie in many minds that the higher education is a gift made to certain elect men and women especially, and we might almost say it is viewed as though given solely for the help and elevation of these men and women, and that, therefore, this is not a blessing to the public in the same sense that an elementary education is. I say, I believe that this is a very erroneous conception. It is true that the men and women who have the good-fortune to secure a higher training themselves are built up and edified thereby, but I believe it is true that no men and no women who have truly reaped the benefits of higher education fail to give to the communities in which they dwell far more than they have received themselves. They are benefactors of the public even more than they have been benefited by the public.

Education, learning, scholarship, is a thing which one cannot hoard up like silver and gold. The more you ask, the more there will be to give.

The more any one of us carries away from college or university, the more he is constantly bestowing on all those who are about us.

And to come a little more particularly to our present condition, I think we may emphasize this statement with something more than ordinary force. One might well say there have been eras in the history of our country when everything went on as it were by routine, when a few leaders led the people upon great public questions. When we had the old-fashioned Whig and Democratic party, nobody ever thought of having any ideas, except those who had inherited them, upon political questions, and he was pretty safe in sticking to them. And so it was in respect to many ethical questions. So it was in respect to economic questions. But look out on the world to-day, and see what a caldron it is in respect to all these questions; how all political questions are stirred to the very bottom; how even ethical positions that have been standing by prescription and tradition almost from the foundation of the world, are to-day challenged and made to stand up and answer for themselves, and testify for themselves; how the economic conditions which have come down to us from the past are to-day, we may say, in a state of unstable equilibrium. The air is full of these questions concerning every sort of problem, and if ever there was a time when we needed to have disseminated in all parts of our communities men and women with disciplined minds, who can take up these questions, and study them for themselves, and guide their children in the study of them, this is the time. The nation is full of the wildest agitators, preaching every sort of heresy on every sort of theme. Where shall be found the sane, rational, and disciplined men and women to guide the multitude who have not been accustomed to consider such questions? Why, the very theory of our republican form of government is that every man shall know how to meet these questions that are thrown upon him. And therefore I say to you to-day, as never before, is it true that not only in these great centres of population, but also in the smaller villages and in the hamlets, in the farming districts, which perhaps in some respects are particularly afflicted just now with troubles of this sort, everywhere, if this nation is to stand, prosper, and go forward with sanity and reason, we must have all the trained and disciplined men and women we can possibly muster into the ranks to go among them and teach. Now, that is what higher education is trying to do.

One more thought, and then I will relieve your patience. If there is any danger to this country, greater at this time than any other, if there could be a position more dangerous than any other, it would be one in which we should have a small class of rich and educated men and a great class of poor and uneducated men and women. The gap is wide enough between these people to-day. In that gap there are perils to-day greater than any of us can measure. There is not one of us here who lies

down at night without thinking, with solicitude and dread, of the possibilities that are before us in the presence of the great economic problems centred right here, of the rich growing richer and the poor growing poorer in this country. And now, if you are to keep this up forever, and if you are to widen this gulf by saving the higher education for the rich alone, and remand the poor boys and girls to the wilderness of ignorance, God have mercy on this land! Who knows what is before us? But if you can make it possible, as it is still possible to-day, if you can open the doors of the highest colleges and universities to a large number of poor boys and girls, as well as to the rich, you need not cherish longer this solicitude. The poor boy, with the brains under his hat and crutch under his arm, will soon vindicate his position and show that he is the equal of the boys beside him on the bench. He will go forth with his mind calm, and his colleagues and friends in life will be soothed and calmed by the reflection that to nearly every one this path is also clear and open. And here is one of the great justifications for making our higher education as free and open as it is possible to make it, to every boy and girl on our soil. And when your rich friends are challenged because they are bestowing their millions in the endowment of colleges and universities, I think you need only call attention to this fact; and when the states are challenged because they are taxing their citizens for the support of higher education, my answer is right there—it is for your poor boys and girls; really, it is for the same boys and girls you are taxing yourselves to support common schools, and that argument, in my judgment, is perfectly unanswerable.

I fully respond to the words which my predecessor has uttered here to-day, about this large view of citizenship and manhood which is opened upon us in this Christian era, concerning education and concerning life. I believe that our public higher institutions of learning are doing their full part in maintaining it. I cannot, therefore, but believe that, firm as is my faith in the durability of our public-school system, I cannot but renew my expression of the fullest faith that the day will never come when our people will be so blind to their highest interests, so blind to the highest interests of our public schools themselves, as to cripple in any way our universities and our colleges.

CLOSING REMARKS, BY PRESIDENTS GILMAN AND HARPER.

PRESIDENT GILMAN: It has been a most inspiring thing to attend the congress, and see so many college presidents and so many college professors and so many representatives of the best seats of learning, the oldest and the newest, assembled to consider what is wisest and best for American education. I do not believe that such a gathering as has been held in this room for the last three days had ever been seen in this country. There had been larger gatherings, there had been select gatherings,

but such a comprehensive representation of universities and colleges of the land had not been brought together. We are particularly indebted to Dr. Harris, Commissioner of Education at Washington, for the great pains he has taken. Let us also remember the fact that the city of Chicago, which had been engaged in endowing a great university, as well as organizing the magnificent exhibit of the Columbian Exposition, had included in that Exposition not only the industries and manufactures, but the results of human thought, of the liberal arts, and had also erected the beautiful building in which the congress has been held, as a home of art and cultivation for the future.

PRESIDENT HARPER, of the University of Chicago, said : I have enjoyed the discussions and papers of the congress greatly. The city of Chicago, which for the fifty years of its history had been doing educational work not only in schools, but in the school of life, had lately added to its achievements the founding of its university. One thought, speaking as a university man, I desire to express before the congress separates : In both the colleges and universities which comprise our higher education, although we lay emphasis in the college upon discipline of mind, and lay emphasis in the university upon investigation and research, still the greatest thing in both is character, and it is this in its strong sense that is to contribute to the progress of our civilization ; and college men, whether college presidents or college professors, must remember that it is only men who have character that can develop character. Should not all our institutions therefore see to it, above all things else, that there shall be in every man who occupies a professor's chair this thing which means so much and which is so hard to describe—this thing called character ? One of the greatest blessings to the city of Chicago in all its history has been this coming together of many congresses, and no congress has been more welcome or more successful than that on higher education.

*THE STUDY OF ENGLISH LITERATURE IN FRENCH UNIVERSITIES.**

BY M. ANDRÉ L. CHEVRILLON, PROFESSOR OF ENGLISH LITERATURE IN THE FACULTÉ DES LETTRES OF LILLE, AND DELEGATE FROM THE MINISTER OF PUBLIC INSTRUCTION, FRANCE.

M. COMPAYRÉ has given a short sketch of the work of reorganization which our French universities † have gone through during the past twenty years. In this work of reorganization, the study of foreign literatures

* This paper, prepared for the Congress of Higher Education, was not read before that department, by some misunderstanding as to the time of the sessions, but it has been secured for publication in this Report.

† Though the word university is used for the sake of brevity throughout this paper, there are no universities, properly speaking, in France, but sixteen groups of faculties located in the chief towns,

has not been forgotten, and perhaps in no other branch of the literary studies has such progress been achieved.

The main function of the faculties of letters and sciences in our universities has been hitherto to prepare masters for the government *lycées*, so that the courses of studies in these faculties are shaped to meet the requirements of our secondary education. Now the tendency of our secondary education, that is to say, in those schools which form the minds and intellects of hundreds of thousands of Frenchmen, is at present to develop the study of foreign languages at the expense of the classical languages. A new Bachelor's degree* has just been created for which no Greek is required, whilst both English and German have been made necessary. In the usual public school courses either English or German must be selected by the pupils. The tendency so far in those schools has been to select German, and among the men who have been through the *lycées* during the last fifteen years, you will find two who can wade their way through German to one who can read English. This, I believe, seems now to have been a mistake; and I think we may anticipate a reaction in favor of English, both in the public schools and in the universities. Indeed, in the universities the balance is already in favor of English; in Paris and at Lille the courses of English literature are now attended by a greater number of students than those of German, and I cannot help thinking that this is very fortunate. In the first place, the very process of thinking is so different in a French and in a German mind, that for the French student too long a study of the German writers, too continuous an effort to adapt himself to the German habits of thought and of speech, may result—as in the famous case of Henri Frédéric Amiel—in a fatal twist of the thinking faculties. The mental differences of the two races are so great, that a healthy intellectual cross between them is hardly possible. The old French art of writing and reasoning with method and accuracy, that of which a Pascal in his Provincial Letters, a Condillac in his *Langue des Calculs*, a Taine in his Philosophy of Art, have been masters nearly as perfect as the Greek, will always remain the ideal towards which a French literary student is striving; and this art is something so peculiar, so delicate, that a foreigner can hardly realize what it is, and that a French student who for years—as a candidate to the *Aggregation d'Allemand* has to do—lived in Germany, and has been attempting to reproduce in his own brains the German process of thinking, must give up all hope of attaining this French ideal. To a Frenchman, however great his respect for the great geniuses of Germany, a German sentence will always be like a railroad tunnel: there is light at the beginning, and

each group consisting of a faculty of letters, faculty of science, faculty of medicine, and faculty of law. The general council of the faculties is for each group the common bond between the four faculties. Each of these groups is really a university, though the word is not used in France.

* The "*baccalaureat moderne*."

there is light at the end, but in the middle there is nothing but darkness. Surely, every student must have been through a good many of those tunnels. He must have mastered German as a scientific instrument; as a key to vast stores of historical and philological knowledge; and in that sense German is required from our candidates to all the higher degrees in history, philology, or philosophy. But again, the structure of the French mental eye is such that it cannot live for a long, continuous period in those tunnels, make its usual abode in them, without danger to its own peculiar native faculties.

On the contrary, between the average English process of thought and the French methods, the differences of thought are but slight. Whether this is due to the Celtic element in the English blood, or to the Norman conquest, or to the combined influences of the French writers in England at the end of the seventeenth century, and of the English writers in France in the middle of the eighteenth, is not a question which I can enter upon now. But such writers as Addison, Swift, Pope, Hume, Gibbon, Robertson, the best of the Edinburgh reviewers, also Macaulay and Stuart Mill, belong to the classical and Latin type of thinkers. The build of their sentences, the frame of their paragraphs, their mental trains, constructions, and connections, are the same as ours. With these writers a young French mind can live for years without any distortion of his own national tendencies and personality.

The other great reason why English literature is now and will become more and more in our universities the most important branch of foreign studies is its superiority as a great literature. Only two other literatures—the Greek and the French—have had the same range, the same width, the same variety, and, especially, the same continuity of development. Other literatures—the Latin, the German, the Italian—are broken by long gaps which stretch sometimes over several centuries. With a short eclipse in the fifteenth, the English literature from Beowulf to Rudyard Kipling covers an uninterrupted twelve hundred years, during which, in poetry, in philosophy, in the drama, in history, in theology, in romance and novel writing, through Langland, Chaucer, Ascham, Sidney, Spenser, Shakespeare, Bacon, Hobbes, Milton, Addison, Swift, Thomson, Fielding, Burke, Wordsworth, Shelley, Eliot, the Brownings, Carlyle, Tennyson, and let me add also the names of Longfellow, of Edgar Poe, of Hawthorne, of Emerson, of Lowell, to mention only the great landmarks which are planted along the tide of centuries, the Anglo-Saxon mind has manifested itself and may be studied through all its variations, through all the stages of its development. To the philosopher and to the historian this is one of the most complete experiments which nature has carried on, and one of the fields which afford the best opportunities for minute and connected observation.

II.

Let me now briefly sketch the educational progress which has been made in our universities toward a more thorough understanding of English writers. As I said before, the movement is recent and quite unknown abroad. The Englishman, who does not see the beam in his own eye more often than we do in ours, looks upon us as outrageously ignorant of anything besides ourselves. I remember, a few years ago, reading an article in the great English Philistine paper—the “Daily Telegraph”—in which it was said that the great majority of French people thought that Shakespeare was a lieutenant of Wellington, who had helped him to win the battle of Waterloo. Now, this was unfortunate, as not less than four plays of Shakespeare had just been performed in Paris. But the prejudice under which the writer in the “Daily Telegraph” was laboring is perfectly natural, when we notice that a nation never knows what its neighbor is, but what it was twenty years ago. Well, twenty or thirty years ago French boys and students wrote better Latin verse than they do now, but of English literature they knew nothing, except the names of Shakespeare, Milton, and Byron. Our great arch-critic, Sarcey, says that they made fun of Taine at the École Normale because he was reading English. Foreign literatures were, indeed, supposed to be taught; but any man who had graduated in classics, whether he knew English or not, was supposed to be good enough for that kind of work. When he left the École Normale, after a course of studies in Plato and Aristotle, he would receive notice that he was appointed professor of foreign literatures, and had to begin work at once. One of these, I believe, it was who was complaining of the difficulties of his task. “What a language,” he said, “English is to pronounce! They write Boz and they pronounce Dickens.” M. Ernest Lavisse, who has seen this generation of professors of English literature, was telling me, the other day, the following authentic and typical fact: When he was a student at Nancy, at the faculty of letters, he heard a lecture on the literature of England in the sixteenth century. After three-quarters of an hour the professor had exhausted his subject, but his time was not up. “Gentlemen,” he said, pulling out his watch, “we have a quarter of an hour yet. *We have time to do Shakespeare.*”

Let us now go into some technical details that will allow us to realize the progress made in this department of literary studies. When a French youth leaves the *lycée*, after having passed his B.A., or *baccalauréat lettres*, for which one foreign language at least is demanded, and goes to the university, the first degree he has to face is that of licentiate, for which a course of two years is necessary. At once he begins to specialize; that is to say, that side by side with the classics he may take up English or Ger-

man literature, philosophy, history, or classical philology. Every candidate for the *licence* has to write a French essay on French literature, a Latin essay on Latin literature. Then, according to the specialty he has selected, he writes papers on historical or philosophical subjects, or translations from French into English or German, or from English or German into French. The *viva voce* examination consists, for all candidates, in questions on French, Latin, and Greek literature, and extempore translations from the classics; and for those of the candidates who make English a special subject, in questions on English literature, and translations into English and French of the French and English authors on the programme. As I said, the course of studies for the *licence*, which would correspond to your A. M., and which is usually taken at the age of twenty-one or twenty-two, is of two years; the first year consisting in study at the university, where the candidate attends the lectures of the professors of French, Latin, Greek, and English, if English is his special part. During this first year, the chief purpose of the English professor is not so much to acquaint him with the whole field of English literature as to give him an insight into the spirit, the genius, of English literature, and to make him feel the artistic element in the great writers. A French youth, fresh from his Tacitus, his Racine, and his Voltaire, cannot, unless he has great natural talent, understand, or, rather, feel at once Carlyle or Tennyson. This is done through minute translations, the aim of which is not to acquaint the student with new words or new constructions, but to teach him how to find those French forms that will best express something of the beauty peculiar to the original English text. The tendency is thus to develop the artistic sense in the student, and to give him a mastery of his own language. At the last examination for the *licence*, at Lille, the English translation being Milton's "Il Penseroso," several candidates were dropped who had understood every word and the literal meaning of the text, but it was clear from their translations that they had not felt the spirit of Milton's poem, or had failed to express it. The second year, preparatory to the *licence*, is a special feature. An exhibition is given to the most meritorious students; they are simply turned out of the university and sent to England for twelve months. They remain correspondents of the university; that is to say, they have to send papers to the professors of French, Greek, and Latin, thus preparing themselves for those general parts of the *licence* which are demanded of all candidates to the degree. With the English professor they of course correspond also, and the main thing that he requires them to do is to steep themselves in English life—to go to the theatres, sermons, public meetings, to see English university life, to make English friends, to think in English, to assume English forms of habit and prejudices—in short, for one year to throw off the Frenchman, to make themselves Englishmen, and to step out of the natural limits of the national mind and sensibility. After this experi-

ence, when they come back to France and settle into the old man again, they have become able to look at English writers from the English point of view.

As you see, the *licence* is but a first step. During these two years the student has only begun to specialize ; side by side with his English studies he has carried on his literary studies in French, Greek, and Latin. He has learnt English and developed a taste for English literature, but he is not an English scholar yet. This he becomes when he prepares for the *agrégation*. The *agrégation* is the degree which will entitle him to be appointed master, or, as we say, *professeur*, in one of the government's *lycées* for secondary education. The number of possible appointments being, of course, limited, the *agrégation* is more of a competition than of an examination, and the number of candidates increasing every year, it has developed into a very severe test indeed. We have several kinds of *agrégation* in the literary department—one for history, one for philosophy, one for philology, one for *belles-lettres* and classics, one for German, and one for English. Each of these examinations is strictly special. Let us see what the *agrégation* for English consists of. The course of studies is at least of two years after the *licence*, and often more, as such a limited number of students get through. The list of authors for the examination is changed every year, and as the lectures and papers during the terms bear on the authors appointed for the examination at the end of the year, every candidate, when he attempts the *agrégation*, has gone through two of those lists. The following is the programme of authors for this year :

William Langland.—“Piers the Plowman.” The extracts given in *Specimens of Early English*, by the Rev. Richard Morris and the Rev. Walter W. Skeat. (Part II. From Robert of Gloucester to Gower.) Clarendon Press.

Spenser.—“Epithalamion,” “Prothalamion ;” “Fowre Hymnes : An Hymne in Honour of Love ; An Hymne in Honour of Beauty ; An Hymne of Heavenly Love ; An Hymne of Heavenly Beauty.”

Greene.—“Honourable History of Friar Bacon and Friar Bungay,” edited by A. W. Ward. Clarendon Press.

Shakespeare.—“Much Ado about Nothing.”

Sir Thomas Browne.—“Hydriotaphia : A Letter to a Friend, upon occasion of the Death of his Intimate Friend.”

Pope.—“The Rape of the Lock.”

Cowper.—“Letters.” (Golden Treasury Series.)

Burke.—“Reflections on the Revolution in France.”

Byron.—“Cain. A Mystery.”

Walter Savage Landor.—“Imaginary Conversations.” (The Camelot Classics.)

Tennyson.—“The Dying Swan,” “The Merman,” “The Mermaid,”

"The Lady of Shalott," "Mariana in the South," "Eleanore," "Enone," "The Palace of Art," "The Lotos Eaters," "A Dream of Fair Women," "The Brook."

George Meredith.—"The Ordeal of Richard Feverel."

As you see, this programme consists of representative authors, each of whom is taken as a specimen from a group of writers belonging to the same century and to the same literary species. Langland, for instance, belongs to a group composed of Langland, Chaucer, Gower. Greene belongs to a group composed of Marlowe, Peele, Greene; Ford to a group composed of Webster, Massinger, Beaumont, Fletcher, etc. Near Smollett are Fielding, Sterne, Richardson; near Byron are Shelley, Wordsworth, Keats, etc. Now, when a particular work of a particular writer is mentioned on the programme, it means that the candidate will be minutely examined on that work and that writer, and *generally* on the authors belonging to the same group. So that, when after two years the candidate has gone through two of those lists, he may be said to have a thorough knowledge of representative writers studied from the historical, the grammatical, the artistic point of view, and a good general knowledge of the whole range of the literature. The examination consists (1) of an English essay on some point of English philology, for which seven hours are allowed; (2) of a French essay on some point of English literature, seven hours; (3) of a written translation from English into French, four hours; (4) of a written translation from French into English, four hours.

The *viva voce* part consists (1) of a lecture in English on some point of English philology connected with one of the authors on the programme; (2) of a lecture in French on some point of literature connected with the programme; (3) of translations into good French and good English; (4) of an extempore translation from some German standard authors.

The courses of studies at the university for candidates preparing the degree consist of lectures in French and English on English literature and philology, both by the students and by the professor; of English and French essays; of translations; of a careful philological study of the works on the programme. Some of the papers given this year at Lille were the following: In French, "Burke's Social Philosophy in his Reflections on the French Revolution," "Byron as a Dramatist," "The Psychological Development of Madness in King Lear." In English, "Langland's Grammar," "Method of Metrical Tests applied to Shakespeare," "Chief Characteristics of English Prose Writing from Lily to Dryden." Translations were from Shakespeare, Ruskin, Tennyson, Carlyle, with a view to furthering the student's command of French.

Such is the training given to students of English literature in the French universities, and we hope that it will have two great results. In the first place, most of those young masters who have gone through the

agrégation do not leave their English studies, but, taking up a particular point, write one of those careful, scholarly books which are the French theses for the doctor's degree. These theses are not students' work, nor are they prepared at the university. They are the works of scholars who spend years over them, and who are not satisfied until they have exhausted their subject. Thus it is that my colleague at Lille, M. Angelier, has just issued his thesis, a book of twelve hundred thick pages, on the work, life, and surroundings of Robert Burns. M. Jusserand's book on English way-faring life in the fourteenth century is a thesis. So is Professor Beljame's "The Public and the Men of Letters in England in the Eighteenth Century." In the second place, from this university teaching, as from a higher source, the knowledge of and the taste for English literature will spread through the secondary schools over the great reading middle class. Nothing could be more fortunate. In these days, when the study of the classics is threatened, what the study of German, upon which most of French boys have been thrown for the last twenty years, has failed to do, the knowledge of English literature will accomplish. It will open to them a vast field of interesting, often passionating, artistic literature, instinct with the loftiest ideals, with the deepest human sympathy; full of pathos, of feeling, of life; full of the sense of the good, of the righteous, of religious earnestness, as ours is full with the sense of the true and of the beautiful—one of the most powerful to instill into a young mind the germs that will develop upwards. In France thousands of grown-up people of the average cast, who are neither poets nor scientists nor philologists, do not know what to do with what German they have painfully learned at school. They have an occasional look at their Faust, at their Schiller, at their Heine; but the German novelists and essayists are not numerous or conspicuous enough to tempt them to go on. But let the large public have a taste of the modern English novel, and through Dickens, through Charlotte Brontë, through Thackeray, through George Eliot, through Mrs. Gaskell, through Kingsley, through Mrs. H. Ward—through all these great artists and preachers, they will be enticed to read on. The demand for the English books of the Tauchnitz continental edition will become larger and larger. The modern novels of England, the pure, idealistic utterings of a Carlyle, of a Tennyson, of an Emerson, are among the greatest means of education of the present time. Of course, the first thing for a Frenchman—for every man—is to remain in contact with his own race; to read those writers of the past that have molded the soul and mind of his own nation, and those writers of the present that discuss the problems which the people of his own blood have to solve in order to live on and to transmit to their posterity the national inheritance. But when he has done that, let him turn to those foreign books in which he finds an ideal, a philosophy, an æsthetics—views of life widely different from those that prevail in the French books of his own time. The national ideal will then cease to

appear to him as a central one toward which the whole universe ought to be moved. On that day when he becomes able to enjoy a novel of Eliot as well as a novel of Flaubert—nay, on that day when he enjoys the very difference between the two types of novel—let him be a business man or a *bourgeois*, he is a man of broader culture, in the true sense of the word, than the scholar who, as Dr. Harris was saying the other day, devotes his life to the study of the dative case.

DEPARTMENT

CONGRESS OF SECONDARY EDUCATION.

SECRETARY'S REPORT.

FIRST SESSION—WEDNESDAY, JULY 26, 1893.

THE Congress of Secondary Education met in Hall 22, at 10 o'clock A.M., Wednesday, July 26, 1893. The meeting was called to order by Ray Greene Huling, of Cambridge, Mass. He made an opening address, introducing the president of this department, Dr. James C. Mackenzie, of Lawrenceville, N. J., who read a paper on "Supervision of Private Schools by the State or Municipal Authority."

This subject was discussed by G. N. Carman, of Chicago, Ill.; by E. W. Coy, of Cincinnati, Ohio; by Charles C. Ramsey, of Fall River, Mass.; by H. L. Boltwood, of Evanston, Ill.; Miss Zimmern, of England; Frank Plummer, of Des Moines, Iowa; W. T. Poynter, Shelbyville, Ky.; R. E. Cutler, of Chicago; W. H. Bartholomew, of Louisville, Ky.; and Charles E. Putney, of St. Johnsbury, Vt.

Dr. W. T. Reid, Head Master of the Belmont School, Belmont, Cal., read a paper on the following thesis: "The course of study in secondary schools designed simply to prepare pupils for life (or designed as a finishing school): should it be different from that designed to prepare students for college or the professional school?" This paper was not furnished for publication. It was briefly discussed, and followed by a paper on "The Course of Study in Secondary Schools," by G. N. Carman, Dean of the Morgan Park Academy, of the University of Chicago; after which the meeting adjourned to July 27th.

SECOND SESSION—THURSDAY, JULY 27, 1893.

The second session of the Congress of Secondary Education was called to order by the president, Dr. James C. Mackenzie, at 9.30 A.M., Thursday, July 27, 1893. The first paper was by Dr. C. F. P. Bancroft, of Andover, Mass., on the thesis: "Should the amount of time given to languages in our secondary schools (as they are) be diminished, in order to make room for a more extended course in physics, botany, and chemistry?" Dr. Bancroft was unable to be present, and his valuable paper was read by Mr. Huling. This was followed with a paper by Dr. D. W. Abercrombie, of Worcester, Mass., on "Should Language Studies be limited in Secondary Schools, as they are, in the Interests of the Sciences?" The subjects of the papers by Dr. Bancroft and Dr. Abercrombie were discussed by W. T. Poynter, of Shelbyville, Ky.; by Dr. Moses Merrill, Head Master of the Public Latin School of Boston, Mass.; Mr. Boltwood, of Evanston, Ill.; by the chairman, Dr. Mackenzie; by W. H. Snyder, of Worcester, Mass.; by R. E. Cutler, of Chicago; by Dr. Edward Österburg, of Sweden; by Miss Cordelia Kirkland, of San Francisco, Cal.

A paper was read by Mlle. Marie Dugard, of Paris, on "The Secondary Education of

Girls in France." This paper was discussed by M. Buisson, of France; by Dr. Mackenzie, of New Jersey; and Will S. Monroe, of California. The meeting then adjourned until Friday morning, July 28th.

THIRD SESSION—THURSDAY, JULY 28, 1893.

The third session of the Congress of Secondary Education was called to order at 9.30 A.M., Friday, July 28, 1893, by the president, Dr. Mackenzie.

The following thesis: "Should algebra or geometry come first in the course of study of secondary schools?" was presented, and the discussion was opened by Superintendent W. N. Hartman, of La Porte, Ind. He was followed by Amy Rayson, of New York; by H. H. Spayd, of Minersville, Pa.; by Edward G. Howe, of Chicago; by W. H. Bartholomew, of Louisville, Ky.; W. T. Poynter, of Shelbyville, Ky.; by Professor William E. Story, of Worcester, Mass.; and by John H. Patrick, of Anderson, S. C.

A paper prepared by Mary Gurney and Rose Kingsley, of England, on "High-school for Girls in England," was read by Miss Zimmern. This paper was followed by a discussion on the following thesis: "In cases where a choice should be made, which should come first, Latin or some modern language, in the course of study of secondary schools?"

This discussion was opened by Dr. C. W. Pearson, of Beloit College, Wis. W. Wilberforce Smith, of Englewood, N. J., followed with a paper on "Which should come first, Latin or some modern language?" This subject was further discussed by Ray Greene Huling, of Cambridge, Mass.; by Dr. Mackenzie, of Lawrenceville, N. J.; by Mr. Boltwood, of Evanston, Ill.; by Mr. Poynter, of Shelbyville, Ky.; by Mr. Bartholomew, of Louisville, Ky., and by the Chairman. After which the session of the Congress of Secondary Education adjourned *sine die*.

LIST OF PERSONS ACCEPTING THE OFFICE OF HONORARY VICE-PRESIDENT OF THE DEPARTMENT CONGRESS OF SECONDARY EDUCATION.

AUSTRIA.

Dr. Ignaz Pokorny, Director State Gymnasium, Brünn.
Dr. J. K. Hackspiel, Director of Gymnasium, Prague.

CANADA.

Rev. E. J. Rexford, B.A., Head Master High School of Montreal, Montreal.
John Seath, Esq., B.A., High School Inspector, Toronto, Ontario.

CUBA.

Señor Mannel Valdes Rodriguez, "Instituto San Manuel," Havana.

FINLAND.

Fröken Elisabeth Blomqvist, Principal of "Svenska Fruntimmers-Skolan och Fortbildungsläro-verket" (Principal of Swedish School for Women and Continuation Schools), Helsingfors.

FRANCE.

M. Georges Edon, Lycée Henri IV., Paris.
M. M. J. Gaudres, Member of Municipal Council of Paris.
M. A. Godart, Director of "Ecole Monge."

M. Delaunay Selleville, President Chamber of Commerce, Paris.

M. Ernest Lourdelet, Member of Chamber of Commerce, Paris.

Dr. Gabriel Compayré, Rector Academy of Poitiers.

Mlle. M. Dugard, Prof. Lycée Molière, Paris; Delegate of France.

M. Gauthiot, Lycée Henri IV., Paris.

GERMANY.

Dr. Eitner, Director, Gymnasium, Gölitz.

Prof. Dr. Th. Hartwig, Director Royal Gymnasium, Frankfurt.

Dr. G. Holzmüller, Director Commercial School, Hagen.

Prof. F. Horneman, Lyceum of Hanover.

Dr. O. Jaeger, Director of Friedrich-Wilhelm Gymnasium, Cologne.

Prof. Dr. Otto Kaemmel, Rector Gymnasium, Leipzig.

Dr. W. Matthias, Director Real-Gymnasium, Düsseldorf.

Prof. Dr. G. E. Müller, Councilor of Education, Univ. Göttingen.

Dr. Oesterlen, Rector Eberh. Ludw. Gymnasium, Stuttgart.

Prof. Dr. Rehmke, University, Greifswald.

Dr. E. Schanenburg, Director Gymnasium, Councilor, Crefeld.
 Dr. Hermann Schiller, Giessen.
 Dr. Schlee, Director Real-Gymnasium, Altona.
 Dr. R. Schornstein, Director Girls' High School, Elberfeld.
 Dr. Schottmüller, Councilor, Berlin.
 Dr. Wilh. Schrader, State Councilor and Curator at Univ. Halle.
 Dr. Schumann, Rector Real-School, Stuttgart.
 Dr. Uellner, Director Girls' High School, Düsseldorf.
 Prof. Dr. G. Uhlig, Director Gymnasium and Prof. in Univ. Heidelberg.
 Prof. Dr. D. Volkmann, Rector Public School, Pforta.
 Dr. G. Schulze, Director R. Franz-Gymnasium, Berlin.

GREAT BRITAIN.

ENGLAND.

Mr. Victor Betis, London.
 Miss Frances Buss, North London Collegiate School for Girls.
 Rev. G. D. Mathews, D.D., London.
 Rev. H. W. Moss, M.A., Head Master Shrewsbury School, Shrewsbury.
 Edward Hale, Eton College.
 Rev. H. A. James, Principal The College, Cheltenham.
 Rev. E. C. Selwyn, Uppingham.
 C. Smith, St. Thomas' Charterhouse School, London.
 T. J. Macnamara, Editor, Schoolmaster, London.
 Rev. Dr. R. B. Poole, Bedford Modern School, Bedford.
 Howard Swan, Richmond.
 Miss A. J. Cooper, Head Mistress Edgbarton High School for Girls, Birmingham.
 Rev. E. C. Wickham, M.A., Master Wellington College, near Workingham, Berkshire.
 Rev. Edmond Warre, D.D., Head Master Eton College, Eton.
 Rev. J. E. C. Weldon, M.A., Harrow School, Harrow.

SCOTLAND.

Colin George Macrae, School Board, Edinburgh.
 George R. Meny, High School, Dundee.

IRELAND.

Maurice C. Hine, Foyle College, Londonderry.

HUNGARY.

Prof. Dr. Johan Koacsala, Lyceum of Pozsony, Varos.
 Dr. J. H. Schwicker, Member Hungarian Parliament, Budapest.

ITALY.

Prof. F. Drocco, Lodi.
 Prof. Enrico Mestica, Camerino.

NETHERLANDS.

Prof. Dr. G. van Overbeck de Meyer, Utrecht.

RUSSIA.

M. Alexandre Jilinski, Prof. de l'École Réale, Moscow.

SPAIN.

Señor F. Giner de los Rios, "Institucion Libre de Ensenanza," Madrid.
 Don Emilia Ribera, Institute of Secondary Instruction, Valencia.

SWITZERLAND.

Herr Pfarrer Jac. Christinger, School Inspector, Huttlingen.
 Herr Albert Lüscher, Rector Gymnasium, Berne.
 Prof. Dr. Chr. Vogel, Rector Real-School, Geneva.

URUGUAY.

Señor Don Claudio Williman, Montevideo.

UNITED STATES.

ALABAMA.

J. H. Riddle, Ashland College, Ashland.

ARKANSAS.

T. A. Futrall, Marianna Male and Female Institute, Marianna.

CALIFORNIA.

W. T. Reid, Belmont School, Belmont.

CONNECTICUT.

Prof. E. H. Wilson, Preparatory School, Norwalk.
 Joseph Hall, Principal Public High School, Hartford.

DELAWARE.

Isaac Johnson, Wilmington.

DISTRICT OF COLUMBIA.

A. P. Montague, Ph.D., School of Latin, Columbian University, Washington.
 Dr. F. R. Lane, Principal High School, Washington.

GEORGIA.

Rev. S. Graves, D.D., Atlanta.
 J. L. Stewart, Jr., Marietta.

ILLINOIS.

Ira W. Allen, Allen Academy, Englewood, Chicago.
 Prof. G. M. Carman, A.B., Dean of the University Academy, Morgan Park.
 Miss H. N. Haskell, Monticello Seminary, Godfrey.
 Miss Rebecca S. Rice, Woman's Commissioner on Educational Congresses, Chicago.

INDIANA.

Mrs. May Wright Sewall, Girls' Classical School, Indianapolis.
 Mrs. Delphine B. Wells, Westminster Seminary, Ft. Wayne.

IOWA.

Frank E. Plummer, National League State Teacher's Bureau, Des Moines.
 Rev. Jas. F. Zwemer, Orange City.

LOUISIANA.

Prof. James H. Dillard, Tulane University, New Orleans.

MAINE.

Rev. A. F. Chase, Ph.D., East Maine Conference Seminary, Bucksport.
 O. H. Drake, Principal Maine Central Institute, Pittsfield.
 J. H. Hanson, Principal Coburn Classical Institute, Waterville.

MARYLAND.

R. W. Silvester, President Maryland Agricultural College, College Park.

MASSACHUSETTS.

- D. W. Abercrombie, A.M., Principal Worcester Academy, Worcester.
 B. T. Capen, Principal Classical School for Girls, Northampton.
 Julia A. Eastman, Principal Dana Hall, Wellesley.
 Albert Hale, Boston.
 Rev. Endicott Peabody, LL.M., Principal Groton School, Groton.
 J. B. Sewall, Principal Thayer Academy, South Braintree.
 J. B. Taylor, Principal Berkeley School, Boston.
 C. F. P. Bancroft, Ph.D., Phillips Academy, Andover.
 William C. Collar, Roxbury.
 Rev. William Gallagher, Ph.D., Williston Seminary, Easthampton.
 Arthur Gilman, M.A., The Cambridge School, Cambridge.
 Moses Merrill, Public Latin School, Boston.
 John Tetlow, Girls' High School, Boston.

MICHIGAN.

- Col. J. Sumner Rogers, Michigan Military Academy, Orchard Lake.

MINNESOTA.

- Eugene D. Holmes, M.A., Minneapolis Academy, Minneapolis.

MISSOURI.

- Denham Arnold, Rugby Academy, St. Louis.

NEBRASKA.

- Robert Doherty, S.T.D., Principal Brownell Hall, Omaha.
 Alexis C. Hart, A.M., Principal Franklin Academy, Franklin.

NEW HAMPSHIRE.

- J. A. Tufts, A.B., the Phillips Exeter Academy, Exeter.

NEW JERSEY.

- W. S. Eversole, Blair Presbyterial Academy, Blairstown.
 Rev. Joseph E. Perry, A.M., Ph.D., Peddie Institute, Hightstown.
 David A. Kennedy, Ph.D., Principal Dearborn Morgan School, Orange.
 W. W. Smith, Principal Englewood School for Boys, Englewood.
 S. A. Farrand, Principal Newark Academy, Newark.
 Rev. George H. Whitney, D.D., Centenary Collegiate Institute, Hackensacktown.

NEW YORK.

- W. L. Cushing, Head Master Westminster School, Dobbs Ferry.
 Rev. Arthur H. Flack, A.M., President Claverack College, Claverack.
 Caskie Harrison, Brooklyn Latin School, New York.
 Amy Rayson, New York.

- Prof. C. H. Thurber, President Colgate University, Hamilton, N. Y.
 W. McD. Halsey, Ph.D., Collegiate School, New York.
 J. H. Morse, Principal Classical and English School, New York.
 John S. White, LL.D., Principal Berkeley School, New York.

NORTH CAROLINA.

- W. E. Allen, Military School, Scotland Neck.
 Robert Bingham, Principal Bingham School, Asheville.
 Edward E. Britton, Roxboro.

OHIO.

- Joseph E. White, Franklin School, Cincinnati.
 J. S. Wilhelm, Fostoria Academy, Fostoria.
 Lawrence Rust, LL.D., Rector Kenyon Military Academy, Gambier.

PENNSYLVANIA.

- Rev. Thomas W. Conn, Principal School of the Lackawanna, Scranton.
 George Eastburn, A.M., Ph.D., Principal Select School, Philadelphia.
 Mrs. Henrietta Kutz, Principal West Walnut St. Seminary, Philadelphia.
 Rev. R. L. Taylor, A.M., Ph.D., Principal Beaver College, Beaver.
 Miss N. J. Davis, Principal Mountain Seminary, Birmingham.
 William Kershaw, Ph.D., Principal Germantown Academy, Germantown.

RHODE ISLAND.

- W. W. Curtis, Pawtucket High School, Pawtucket.
 D. W. Hoyt, Principal High School, Providence.

SOUTH CAROLINA.

- Virgil C. Dibble, Principal High School, Charleston.
 Edward S. Joynes, M.A., LL.D., South Carolina College, Columbia.

TENNESSEE.

- A. M. Burney, A.M., President Howard Female College, Gallatin.
 W. R. J. M. Webb, Principal Webb School, Bell Buckle.

TEXAS.

- Rev. Charles Carlton, President Carlton College, Bonham.

VERMONT.

- C. E. Putney, Ph.D., St. Johnsbury.
 Henry H. Ross, Vermont Episcopal Institute, Burlington.

WASHINGTON.

- Sister M. Perpetua, Academy of the Holy Cross, Seattle.

SECONDARY EDUCATION.

OPENING ADDRESS.

BY RAY GREENE HULING, HEAD MASTER OF THE CAMBRIDGE HIGH-SCHOOL, CAMBRIDGE, MASS.

Ladies and Gentlemen : In behalf of the committee of arrangements, and as a member specially designated to take a particular interest in the Congress of Secondary Education, it gives me great pleasure to welcome you to this first meeting. The secondary teachers of this country are not a very large body, and their representation here naturally is not large at the opening. But we may be very sure that in this discussion of papers we are speaking to a much larger audience than can hear our words, and that whatever of value shall be presented here will have a far-reaching influence among those who shall read what they cannot hear.

Secondary education in our own country, it seems to me, has passed through a transition. No department has arisen more in general appreciation within the last twenty-five years than our own. In no department has there been a greater widening than that among the secondary teachers' own department. It has received a stronger appreciation from above and from below. I can well remember, when I began to teach in a high-school, there seemed to be a wide, impassable gulf separating the teachers in that grade from the professors in the colleges. I have come to find the professors taking a deep interest in the secondary work, and declaring that their own work depends very largely upon the success of secondary teaching. I have come to see the professors and school-teachers, men and women, united in discussing secondary subjects, and find the men of colleges asking the opinions of those of the secondary schools concerning these difficult questions that relate to passages on one side or the other. I have seen teachers in high-schools and preparatory schools taking the heartiest interest in secondary education.

The gentlemen from abroad must look upon our system of secondary education with some degree of wonder. Accustomed to see orderly control from the lowest step to the highest grade in education, they come here and find everything apparently fragmentary. The problems in secondary education that we are most interested in appear to be those growing out of local control of schools. I am in hopes that the discus-

sions in this department will contribute materially to making clear our paths and making stronger our work.

Concerning the conduct of this department, the plan proposed is somewhat different from most educational gatherings. There are prepared introductory papers; simply that and nothing more. The greater time has been left free for discussion. If you do not discuss these papers, we shall sit after the manner of our friends the Quakers, and think over what the papers have suggested to us.

We are fortunate to have with us this morning a goodly proportion of ladies, as ought to be the case in every congress of secondary education. I hope these ladies will be free in a conversational way to give us their thoughts.

Allow me now to present, as president of this department, one whom the committee of arrangements were happily united in choosing; one whose reputation is national, and more than national—international, I might say—Dr. James C. Mackenzie, of the Lawrenceville School, New Jersey.

REMARKS OF DR. MACKENZIE ON TAKING THE CHAIR.

Ladies and Gentlemen, Fellow-Teachers: I take great comfort from the remarks made by the general chairman of this series of congresses, who said yesterday that the duty of a chairman was not to make speeches, but simply to introduce those who are to make them. However, I have been put at some disadvantage by the request, which comes to me with the force and authority of United States Commissioner, Dr. Harris, that I would so far vary from this canon, laid down by Dr. Angell, as to make some opening remarks. We talked over the subject, and it is rather the joint choice of Dr. Harris and myself that the subject which you find as the initial subject was chosen. Let me say, by way of preface to what I shall say further on, that I am unable to discuss all the phases of this section of supervision of schoolwork, including the high-schools and private day schools. I shall assume here that the high-schools are under sufficient supervision. I shall use the term "private school" as including both the strictly private school and endowed academies. With these explanations I invite your attention to the subject of the paper.

SUPERVISION OF PRIVATE SCHOOLS BY THE STATE OR MUNICIPAL AUTHORITIES.*

BY REV. JAMES C. MACKENZIE, PH.D., HEAD MASTER OF THE
LAWRENCEVILLE SCHOOL, NEW JERSEY.

IN our zeal for the advancement of public school education it is to be feared that we have ignored two facts: first, that in increasingly large numbers everywhere, save in New England, our more prosperous citizens have been sending their children not to the public schools, but to schools and academies essentially private; and, second, that up to this hour no organized movement has been made looking to the systematizing and supervising of these private and endowed schools, in which some two million American boys and girls are being educated. Change but a word here and there, and what Horace Mann said of public school education fifty years ago is true of a large part of American education to-day: "These schools are so many distinct, independent communities, each being governed by its own habits, traditions, and local customs. There is no common superintending power over them; there is no bond of brotherhood or family between them. The teachers are, as it were, embedded each in his own district, and they are yet to be excavated and brought together, and to be established, each as a polished pillar of a holy temple. As the system is now administered, if any improvement in principles or modes of teaching is discovered by talent or accident in one school, instead of being published to the world it dies with the discoverer. No means exist for multiplying new truths, or even for preserving old ones." And that corypheus of our educational reform goes on to ask: "Do we not need some new and living institution, some animate organization, which shall at least embody and diffuse all that is now known, and thereby save every year hundreds of children from being sacrificed to experiments which have been a hundred times exploded?" We ask further: Must each generation of secondary schoolmasters, laying no tribute upon capitalized experience, begin its fortunes anew and exhaust all possible errors before arriving at the soundest principles of schoolwork?

Happily, America is the last of the highly civilized nations to give attention to this large department of the teaching work. Our friends here from Germany, France, Russia, and Sweden will tell us what state supervision has done for higher education in each of these countries, and representatives of the British schools will, from the mixed practice in vogue in the United Kingdom, further irradiate the subject from their point of view.

* The term "private schools," as used in this paper, includes all schools not under the state control—i.e., endowed and proprietary schools.

To simplify our subject, nothing will be said in this paper of the strange and hurtful isolation of the private schools and academies from the public high-schools—two classes of schools that should, in the necessities of the case, have very much in common. They are both doing collegiate preparatory work, and pupils are constantly, in all parts of our land, being transferred from one to the other, and usually with considerable embarrassment to both pupils and teachers.

Looking at the question before us in its entirety, it concerns two hundred and fifty thousand pupils in our public high-schools and two hundred thousand in private schools of secondary grade. Our "brief," then, is in the interests of nearly a half million boys and girls, many of whom are to swell the one hundred thousand enrollment of the five hundred American colleges! Surely this is a leading question in the education of the day. By necessary consequence, by unescapable implication, we are face to face with some of the deeper questions of education, such as the age of admission, the contents of a course of secondary instruction, and the professional training of teachers.

But some one will say, directly you suggest supervision of what has been deemed private business: "This is a republic. Long ago we burst the bonds of a meddlesome paternalism. Intelligent individualism is the regulative principle, and we will not return to any of the forms of despotism." But this is hasty speech, and ignores the many forms in which we voluntarily submit to authority in every relation of the citizen life. If republican institutions "do wake to life unexampled energies in the whole mass of the people, and bestow upon the people unexampled power to work out their will," these same institutions should induce the highest self-control and guidance. It were a strange folly to add to the impulsive forces of a people without also adding to their regulating forces. If it be indeed true that the next generation shall contain a larger percentage of men and women graduated from our higher institutions, men who in the nature of the case shall exert mighty influence in the affairs of the nation, it ill befits us to bandy words about private rights in a business that conditions so profoundly the welfare of the state. We create and maintain a national Congress, convening annually, at incredible expense, to regulate the tariff, internal improvements, and currency; we have State legislatures to legislate about every conceivable subject; we have courts, sitting and moving to adjudicate upon the rights of person and property of every degree of importance; and yet here is a large section, in some respects the most important section of education, which has received literally nothing thus far in the way of organization and united effort.

We grant freely the high character, skill, and devotion of many worthy private school-teachers and proprietors, but it is straining unduly our poor human nature to ask it to work as well without as with direction, supervision, and accountability. Nor does it meet the objection to say

that these private schools are under the supervision of parents, trustees, and the public. I know of a prominent private fitting school whose entire graduating class of some twenty-five members recently failed to secure a sufficient number of credits to admit it to one of our lower-grade colleges. This stunning disappointment was the first information parents or public had of the inferior instruction being given. The half-dozen larger academies of the country, receiving pupils from every State in the Union, know the deplorable standards that are tolerated all too generally in our private day- and boarding-schools. Unquestionably, some of these unsupervised schools are superior to the very best of our public schools; and yet I heard a member of the committee appointed by Harvard University to examine one of our most famous academies, say that if the report of his committee were to be published, it would make a great stir in the school world.

It is passing strange that though you will not commit the care of your body to an unlicensed physician, the care of your property to an unlicensed attorney, or the care of your soul to an unlicensed clergyman, yet you send your son and daughter, not merely for five or six hours a day, but for months and years, to a schoolmaster whose best qualification may be only that he has mastered the art of advertising. With the exception of Great Britain, I believe we are the only enlightened nation that commits such folly. Elsewhere the teacher—man or woman—must pass a prescribed examination, and thereafter his or her school must submit to some form of supervision and control.

For a moment let us dwell upon a statement which may be made without fear of successful contradiction. It is this: *Supervised education has always and everywhere proved good education; education without such supervision has always proved inferior.* I shall not detain you with the historic proofs of this proposition; but many of you will recall the first movements by the Jesuits for better schools—a body of teachers whose glaring faults in some particulars are readily admitted, and yet no less an authority than Robert Herbert Quick says: “No other school system has been built up by the united efforts of so many astute intellects; no other has met with so great success, or attained such widespread influence. No body of men since the revival of learning has played so prominent a part in education. Their skill and capacity are attested by such high authorities as Bacon and Descartes. For more than one hundred years, nearly all the prominent men throughout Christendom—both among laity and clergy—received the Jesuit training, and for life regarded their old masters with reverence and affection.” Now, the central excellence of this Jesuit training was in the word “system.” The famous commission of 1584 formed a closely articulated and minutely supervised system of education, extending over the period of our own secondary courses. It could also be shown that the patronage and supervision of education under the

caliphs of Bagdad and Cordova contributed in no small measure to the remarkable success of the Mohammedan schools that flourished with such signal efficiency for five centuries. In the schools of Bagdad, Damascus, Cordova, Salamanca, and Toledo, grammar, chemistry, algebra, trigonometry, and astronomy were made to assume new forms, and made very great advances.

Coming to more recent times, the history of education in France and Germany is largely the history of organized, systematized, supervised work. The French Convention of 1793 prepared the way for the ample reforms and systems inaugurated thirteen years later by Napoleon, and it is worthy of note that the best impulses of reform in the French schools started from the lyceums, or secondary schools. I need not dwell on the fundamental characteristics of the German schools. Suffice it to say that we would almost accept the Army bill if thereby we could have the German gymnasia in our own land, or at least the capacity and efficiency of these schools. Before completing our hurried glance at organized education, reflect for a moment upon the condition of the English schools. Here so much has been left to individual effort and denominational zeal that the historian must record the verdict that education has made less progress in England than in any other European state. Her theory and practice closely resemble our own. In our country, may I not with all prudence say that our public school system, taken in its entirety—explain the fact as we may—is superior at every point to our haphazard, unsystematized private schools? This is not due, as often charged, to the inability of some private school pupils to meet the demands of the public schools, for the vast majority of our private school pupils have at no time been connected with public schools. It has ceased to be a question in thousands of American homes whether or no the children shall attend the public schools. They are foreordained to the all too tender mercies of the “select school.”

If what I have been trying to say be admitted, it is idle to deprecate supervised schools because of the sure taint of politics. The genius and earnestness of our people may be trusted to stay the hand of this malign influence in the affairs of our schools. Enlarged responsibilities, including the care of the schools patronized by classes of citizens likely to be more exacting and more influential, would indeed induce a higher sense of duty and less meddlesome methods on the part of the custodians of our schools. It is quite germane to our subject, as it seems to me, to call attention to that other form of governmental control of our schools exemplified in the national academies at West Point and Annapolis. The director of the English Military School at Woolwich volunteered to me the statement that these two American schools were the best schools in the world. This I believe to be true as regards all matters of organization and method. Horace Mann's predictions have not been fulfilled. A way

was found to supervise these national schools that made it possible to secure princely teachers and to produce the highest educational results yet attained in the scholastic world. And the hour is at hand when the best interests of our collegiate education, as represented primarily in our private schools, can no longer be left to unaccredited, unsupervised masters and schools. The foreign nations that are copying our system of public school education must be saved the present palpable defects in our unsystematized private schools. Of course, with the open-minded members of the private school teaching force there would be every form of hospitality to a proper board of supervision. In each State a number of schools would have nothing to fear and much to gain by this public accrediting of their work. A long stride forward would be made in the work of professionalizing the teaching office, and, as one result, publishers, insurance companies, and general trade would find it more difficult to lure teachers from their chosen career. And another result of such a recognition of our work would be the higher value and the greater permanency attaching to it. What anybody is able to do is not worth as much as that which only a limited number are able or permitted to do. There are now too many registered teachers at our agencies. There should be no employment bureaus except for servants. Imagine a "Lawyers' Agency," a "Physicians' Bureau," or a "Ministers' Employment Club."

I am well aware that laws cannot save us from any of the evils that may threaten. But with us—let us remember, for our comfort—the very idea of legislation is reversed. Once, the law prescribed the action and shaped the wills of the multitude; with us the multitude prescribe and shape the law. Legislators study the will of the people as philosophers study a volcano—not with any idea of doing aught to the volcano, but to see what the volcano is about to do to them. Therefore it is that we have no longer the dread of the olden time of lawmakers, and we are the more willing to reduce to operative and efficient forms the people's will. Let us not hesitate to do this in the matter before us. An able lawyer of national reputation thinks that ample authority to make laws regulating education of all kinds is given by the constitutional clause reading, "Congress has power to lay and collect taxes . . . and provide for the common defense and *general welfare of the United States*." But this supreme work of education is left to the several States, and to them the appeal for proper regulation of the secondary schools must be made. If I cannot sell sour bread or hawk decayed fish without the interference of the board of health, why should I fear the "paternalism" in government, State or municipal, that bars me from giving an inferior quality of instruction?

I do not care here to consider at length the ways by which this regulation should be achieved. It would be amazing if our people, in view of the manifold forms by which we now safely lay tribute upon national, State, and municipal authority, could not devise some amicable and effective

arrangement—derived, if need be, from the fish-market, the present school board, and the board of control of the West Point and Annapolis schools. I would not have the system of supervision by which our public schools are governed. Nor would I care to see another board of regents such as directs public education in New York, excellent as that system may be in some respects. There is at least one illustration of what might be done to justify the proposition of this paper. I venture to give it at some length, as set forth by William Allen Butler, Esq., in his plea before the legislature of New York :

In 1763 the Colonial legislature passed an act which organized the Board of Wardens for the port of New York, and gave them the power to license pilots, making it compulsory on masters of vessels to accept their services or pay half pilotage. Gradually a vicious element crept into the system. The Board of Wardens, appointed by the party in power in the State government, became infected with the virus of politics, which communicated its bad influence to the pilots. The older pilots shirked their duty, and in the winter storms, instead of braving the dangers of the coast, toasted their toes in comfortable quarters, while incoming emigrant vessels were signaling in vain for their aid.

The pilotage system became an intolerable monopoly. The Chamber of Commerce of New York, and the whole shipping interest, petitioned the legislature against it. The licensed pilots opposed the repeal or alteration of the law ; and in reply to a call from the legislature, the port wardens reported that "*officially*" they knew of no existing evils. The legislature rose without acting on the subject ; but a terrible lesson was in reserve. On Sunday morning, the 27th of November, 1836, at nine o'clock, the passenger ship *Bristol* lay at the entrance of the port, "*with the usual signal flying for a New York pilot ; but as none came out,*" she remained in the offing until about four o'clock, half an hour before night fell in, when she struck upon Rockaway Beach and was lost. On Sunday morning, January 1, 1837, the bark *Mexico*, another passenger vessel, lay off the bar, with about thirty other square-rigged vessels, all having signals flying for pilots. The *Mexico* continued standing off and on till midnight, and at night the whole fleet of ships displayed lanterns from their yards for pilots. *Still no pilot came*, and she was wrecked during the night.

A fearful number of lives were lost by each of these disasters. On the ill-fated *Mexico*, one hundred and four passengers, two-thirds of their number being women and children, were frozen to death.

A thrill of horror was caused by this awful sacrifice of life. Governor Marcy, in his annual message, three days subsequent to the loss of the *Mexico*, invited the attention of the legislature to the subject of the pilotage system. The legislature failed to act till 1845, when, in response to remonstrances and appeals, all pilotage laws then in existence in the

State were abolished, and Congress was petitioned by the State to make national laws to regulate all pilotage. Failing in this direction, in 1846, the merchants and underwriters of New York, under the pressure of loss of life and money, by voluntary coöperation organized a Board of Commissioners of Pilots—composed of five members, two of whom were elected by the Chamber of Commerce and two by the Board of Underwriters, and one appointed by the Secretary of the Navy—whose duty it was “to examine and issue certificates to as many persons to act as pilots for the port of New York as they may deem the navigation of the port requires.” This purely voluntary board gradually built up an efficient pilotage service whose benefits every transatlantic traveler still enjoys. And now follows the instructive paragraph in this incident in the legal history of New York.

In 1853, when it was proposed to deal with the subject by legislation, the Chamber of Commerce and the leading marine underwriters dreaded a return to the old monopoly, and remonstrated against any legislative interference. But when the legislature’s bill was matured, and when in June, 1854, the act was passed, in one of those lucid intervals that come even to politicians and State legislators, *it adopted the system devised by the merchants and underwriters, and created a board of five commissioners, to be elected, three by the Chamber of Commerce and two by the Board of Underwriters, identical with the then existing board, save as to a representative of the Navy Department.* The commissioners of the voluntary board were at once elected as members of the State board, and every one of them served in it until the day of his death.

In this way, by adopting and legalizing the action of the merchants and underwriters, the legislature of 1853 well and wisely divorced the Sandy Hook pilotage service from politics and partisanship, and delegated to the two commercial bodies in the great metropolis best qualified for the trust, the selection of the State officers who should administer the system. The compulsory features of the law excited opposition, and it was denounced unconstitutional by reason of the method it provided for the election of the commissioners; *but the Court of Appeals held that it was a valid and constitutional act.*

I have dwelt at length upon this pilotage system of New York, because I believe it shows clearly a safe and efficient solution of precisely such a problem as we have before us, and because it illustrates once more our American ingenuity in making the government our servant rather than in appointing it as our master. A commission of six members in each State could be named by the two or three leading colleges or universities. This commission could be legally approved by the legislature to pass upon the qualifications of all teachers in our private schools, and to examine these schools at stated times, as is the practice in France. Such visitation by college professors and distinguished citizens would be primarily

friendly, having in view the welfare of the schools and pupils. Worthy teachers would welcome such interest and the consequent coöperation of judicious educators. Each State would create its own standard of excellence in the teaching body and in the results to be attained, having regard to the conditions of education in its own locality.

DISCUSSION.

G. N. CARMAN, Dean of the Morgan Park Academy of the University of Chicago: *Mr. President*—The last part of the paper we listened to reminded me of a recent experience. In considering the general question of qualifications of teachers in the State of Minnesota, during the past winter, and in endeavoring to determine the best way to bring about the desirable results to which our attention has been called this morning, I remember, in a conversation with Dr. Kiehle, Superintendent of Instruction, that this question of supervision was considered. We were then told, by those in position to answer the question, that nothing of the kind could be done. The dilemma in which we are placed in reference to the necessity of supervision in our secondary schools makes it desirable that some means should be at hand by which they could be properly supervised.

All those who listened to the paper of President Eliot, at Saratoga, will remember it was right along the line of thought we have here this morning. In listening to the discussion of "what the schools should teach," I was particularly interested in the words of Colonel Parker, in which he mentioned to be encountered: difficulties due to the indifference of the people, due to work of politicians, and the failure of the teachers themselves to be influenced; and it is just this last matter I wish to emphasize. If the teachers themselves will only realize the necessity of more supervision, more system, and more efficient work, it is reasonable to believe that they will accomplish better results through voluntary coöperation.

E. W. COX, Principal of the Hughes High School, Cincinnati, Ohio: I have been interested in the paper just read. I think, as intimated in the paper, there are two sides to the question of supervision. I have been always connected with public schools that are subjected to supervision. I have, oftentimes, felt like congratulating private schools that are free from supervision, on the opportunities they may have to do things we cannot do on account of our supervision. There certainly is great room for improvement in the supervision of our public schools. Whether it is desirable that the system of supervision of our public schools should be extended so as to embrace private schools, is to me a somewhat serious question. The attempt to provide any new system, as suggested, I don't think is hopeful. If I remember correctly, it took ninety years to establish that supervision. I remember talking some years ago with a gentleman who has since become a very prominent bishop in the Methodist church. He told me that the public ought to have the supervision of all the private as well as the public schools. The difficulty is in the way of practically carrying on such a plan. We are very much wedded in this country to local control. When I lived in a town in Massachusetts where they had the old-fashioned school district system, it was proposed to abolish it and introduce the town system, and it was finally carried; but it came very near causing a revolution. If you attempt to pass from local to national control, it would be an immense step, and it would take at least ninety years to take that step.

CHARLES C. RAMSAY, Master of the High School, Fall River, Mass.: It was not my privilege to listen to the whole of the paper which has been read, so it may be that I am laboring under some misapprehension. The point I have in mind was slightly touched upon by the last speaker. I have had some experience in both public and private school work, and with some of those representing the hostile local influence. It might be said, we each have something of that kind to contend with. The public high-schools have had far more hostile influence in the community immediately about them than would be supposed by those who have taught exclusively in private schools. It takes many years, as has been suggested, to secure proper legislation; and it will take many more years to secure the enforcement of that legislation. The centralizing of public schools was brought

out last night by Dr. Ross, of Ontario. It was plainly seen that the advantage he enjoys by the power of appointment of teachers is an enormous advantage. Until we can in some way obviate the necessity of consulting the opinions of persons not expert, and perhaps not educated, and in some cases unreasonable, we cannot hope for great advancement in this matter.

H. L. BOLTWOOD, Principal of the High School of Evanston, Ill. : I regret that I didn't hear the paper, but the general subject of private schools and legislation calls to mind a little of my experience. I served the first seven years of my teaching life, after graduating from college, in what is known in New England as a one-horse academy, where there is a great deal of work done by the horse, and where the idea of individual instruction was carried to its maximum. But passing from that into the public high-school, I had a chance to contrast my experience. Now, as I look back to it, as a young teacher, full of experiments and conscious of the blunders that young teachers often make, I confess that the individuality of the private school accomplishes more in proportion than the carefully superintended work of the graded high-school. I remember in a little New Hampshire academy, where I had sixty-five pupils, who came to me from country homes, with the spirit of hard work, and I think perhaps ten of the sixty-five made a decided success. Passing into graded work, where the number of pupils was much larger, there was no such proportionate outcome. Of course I don't know the circumstances that went into those individual lives. When a school board is either directly elected by the people or is appointed by those who are chosen by the people, and when a course of study cannot be upset by newspaper criticism, and when the whole public sentiment is largely controlled by a certain element that is not well informed, there are some dangers of supervision. I have seen it work admirably in the hands of men who had the true idea of supervision ; that is, to conduct the general lines of work, and hold the teachers accountable for the results. When these things are combined with the presence of a public that has sense enough to keep the school board out of partisan politics, and allow the superintendent time to shape his school. The trouble of supervision generally is the failure not to allow the individuality of the teachers, nor the individuality of the community, in the course of study. As an example: a course of study prepared for a city like Chicago, which reaches out far into the country, with communities inside of our city limits which are engaged in farming, in gardening, and manufacturing communities, and places where the wealth is concentrated, yet one uniform course is insisted upon. So supervision looks to me as one of those questionable things. Some of it is necessary ; too much supervision may entirely disregard the individuality of the teachers, and the wants of the local community, and, in a certain sense, the individuality of the children. The course of study and graded system which is carried with such minuteness that the teacher is rebuked for anything that he does which is not specified in the graded work, is of doubtful utility.

LEROY STEVENS, President of the Mount Pleasant Institute, Mount Pleasant, Pa. : I want to express my appreciation of the paper. I have a very high appreciation of it, indeed. There are people here who represent other countries. I would like to hear from abroad.

MISS ZIMMERN, of England : I don't know as I have very much to add to what has been said. I feel that I should like to say that we should be a great many years ahead of what we are in England if we had more supervision. You know, doubtless, in our elementary schools there are visitors. We have had supervision ; they call it inspections. We have inspectors who are extremely popular with the teachers. They visit them once a year, formally ; and informally oftener. In the country, they have little informal meetings to which the inspectors invite the teachers. Many of the teachers have told me how extremely valuable these meetings are.

I teach what we call a high-school for girls. We have thirty-five schools, all under the same management. These schools were started to give education to the girls of rather the higher class—to give them an education which should begin at the very beginning, and carry them on till the time they want to go to college. These schools have a very slight supervision, but they have a substitute for it. Every year they are examined by a board from Oxford and Cambridge. Each year each school sends in an account of the work that has been done. We have occasional visits every two or three years from those who technically are not called inspectors, but who occasionally call on the schools and give a little advice. I think, however, if they would come once in three months, instead of once in three years, it would be better ; because in many cases they are men of considerable learning. I really think I speak for many English teachers when I say if we could have more supervision we should be very much better

off. We have this attempted supervision, which is all right among the actual private schools.

The schools started by one gentleman or one lady have no supervision at all, other than a voluntary submitting of their pupils to outside examination. They often choose to do that in order to have a little outside light thrown into the school. We feel that that is not quite enough, and not quite the right thing, because it disturbs the school-work to have to send the pupils to an examination where some one else chooses the course of study. But more and more we are trying to get better graded work, and trying to lead pupils on from one class to another. I do think that instead of having to send the pupils to these outside examinations, if we could have a little more supervision in the school itself we should be benefited very much.

FRANK PLUMMER, of Des Moines, Iowa: In the main I desire to indorse the spirit of this paper. The fact that one of the leading educators, now our president, in connection with the Commissioner of Education, Mr. Harris, has selected this subject for general discussion, shows that it has merit. That being true, I take the stand, because of my experience, to say that supervision is absolutely necessary. This is an age of combinations and supervision, and if anything needs it, it is our schools. But how to get it is another question.

I wish to take exception to one remark in the paper. The speaker had something to say about teachers' bureaus not being necessary. I presume he meant at that ideal time when we should have proper supervision. Possibly then they will not be necessary, but teachers now get places in hap-hazard way. If bureaus can come in and systematize things so that the teachers will get in the right place, then the bureaus may be useful.

W. T. POYNTER, Principal of Science Hill School, Shelbyville, Ky.: I am connected with a private school, entirely private. Nobody has any interest in it except myself. I own the building and employ the teachers, and am responsible to nobody; consequently it may be proper for some one just in that condition to speak at this moment. The whole paper resolves itself into one question, and that is, whether the government shall do all that is done in the question of education, or whether it shall not. That is the whole point in that paper. If you propose to say that the government commissioners shall come to me and supervise my school, I say that is an *impertinence*. I say it is as much an impertinence as if you would send a commissioner to investigate the editorial of the newspaper. The only question is, Shall the government supervise over education or not, and shall private schools exist? That is a question for the public schools and not for us.

R. E. CUTLER, of the Northwest Division High School, Chicago: There is one aspect of the question that has not been presented; that is the influence of the people of the community. We have all heard of the influence that the New England town meeting has had on making the American citizen. If the people have become more intelligent and more interested in their own affairs, it is because they come out and take a part, at least once a year, in the legislation concerning their own local affairs; they learn thus something of government. A part of my lifetime has been spent at work in the high-schools of Chicago. If municipal government is the topic under consideration, I think we have it in Chicago, and I don't see how we could get along without it.

Mr. Boltwood mentioned some of the evils that we were made to suffer in Chicago on account of the supervision of the schools being all under the same regulations, and yet not all of them being under the same conditions. A part of my lifetime has been in the charge of schools of a smaller town, and I have had a chance to study this question as presented there. I have had an opportunity to see how the people of a village take pride in their schools, or, as they call it, "our high-school," and how they have watched, with jealous interest, "our high-school," and how they have looked to see whether the results were praiseworthy or not; and how they considered what they wanted in their high-school in order to meet the wants of the young people who are growing up in their particular community. If we have State supervision, this thing will be taken out of the hands of the people of the town or village, and, as a matter of course, they will lose some of their interest. This reflex influence by the school upon the people, causing the people to have an interest in the school, it seems to me would be lost by State supervision, or anything outside of the village or town corporation supervision.

W. H. BARTHOLOMEW, Principal of High School for Girls, Louisville, Ky.: I think there is a danger lying along certain lines, and that danger is this, a tendency to get

the power away from the people. My conception of it is, that the nearer we keep the power within the hands of the people, the better it will be. I am in favor of municipal supervision. I believe in supervision, and it is not an argument against supervision to say that A or B or C, who is a superintendent, has crushed the individuality of the school. It is an argument against a man who has administered the supervision. If you mean to say you are going to stand against that kind of supervision, I say, I stand with you. But supervision is a necessity; an intelligent and wise supervision is a necessity. The man that has the skill that you cannot describe, of awakening the enthusiasm of a body of teachers, so that he brings out the maximum of their individual power, is the wisest supervisor. I believe we have many of that kind of men in this country. In the city I hail from, we have municipal supervision. You cannot defeat the tax for public schools in Louisville, Ky., to save your lives; if they would ask for seventy-five cents on the dollar (they are now giving thirty-three) the people would give it. Why? Because supervision has brought them up to a state of efficiency. I feel we must have supervision, but we must have men as supervisors who understand this want.

CHARLES C. PUTNEY, Principal of St. Johnsbury Academy, Vermont: One of the speakers said he spent his first years after graduating in a one-horse academy. My experience was similar to his; but for twenty years it has been my privilege to work in a well-equipped academy. From my experience there, I have some convictions upon the general subject. I am in favor of supervision to a certain extent. I do not see how public schools, supported by the State, can be carried on except by supervision. But these private schools, under judicious management, can carry on their work without supervision from the State. At request of the teachers in our academy, the board of trustees appointed, among their number, a board of supervisors, the duty of which shall be to visit the school at least three times during the year, going through the various departments and getting their impressions of the work, then reporting to the board of trustees at the close of the year. I am looking forward with a great deal of interest to that kind of a supervision. But you will understand that that board is made up of members of the corporation and trustees. Every man is interested in having the school take the highest position in preparing the young men and women for the duties of life, as well as for college; and they are interested in having it maintain the very highest standard in the morale of the school. They will go into these recitation rooms and watch the work with feelings of the utmost sympathy, I am sure.

THE COURSE OF STUDY IN SECONDARY SCHOOLS.

BY G. N. CARMAN, DEAN OF THE MORGAN PARK ACADEMY OF THE
UNIVERSITY OF CHICAGO.

Mr. Carman prefaced his paper essentially as follows: "Four years ago the city of St. Paul had a separate training-school. A building for a large municipal training-school was erected. Everything was ready for work except students. Two years ago the manual-training school was incorporated with the old high-school. The parents were unable to decide to which school they would send their children. This is what led to the incorporation of the manual-training school with the high-school."

Is there a course of study which is at the same time the best preparation for life and for college? The answer one might give depends on what is meant by *course of study*. If it means, as it usually does, certain studies taken in a prescribed order, the same in quantity and in time given to each, for all pupils, such a course is good for neither the fitting school nor the finishing school. If *course of study* means everything that is taught in the school, from which such studies may be selected for

the pupil at such times and in such quantities as are best suited to him as an individual, and are best calculated to fit him to succeed in what he subsequently undertakes—such a course is good for the fitting school and good for the finishing school.

With reference to their attitude toward this question, secondary schools may be classed, (1) as special schools, and (2) schools with special courses. Boston, with its Latin high-school, English high-school, and manual-training school, furnishes a good illustration of a city with special schools; whereas most of the public high-schools, especially those of the West, are schools with special courses, each course being calculated to fit for a special course in college, or for a special vocation.

Neither the *special schools* nor the *schools with special courses* meet all of the demands of the case; for what is wanted is a school with a course of study in which there may be found what is best suited for each pupil, and from which selections may be made according to the changing needs and capacity of each pupil. This is the school founded on what President Eliot designates as “the only truly democratic school principle—every grade to provide the best possible power-training for every pupil at his stage of progress, no matter at what stage of progress his education is to end.”

The academy or fitting school is the only *special school* that claims that its course is good as a preparation for life and for college. We are told in the announcement of one of these special fitting schools that *the main object* at which it aims is to fit its pupils for the various occupations in life which they may afterward select. It claims that “the subjects of study are so wide in their range as to interest all classes of minds, and prepare for many forms of more advanced work, but not so wide and miscellaneous as to produce distraction, superficiality, and impotence.” The school referred to offers nine years’ work in foreign languages (Latin, Greek, and German), three years in mathematics (algebra and geometry), one year in science (physics), one year in English, and one-half year in Greek and Roman history. In this school a pupil will, on the average, give one-half his time to foreign languages, one-quarter to mathematics, and the remaining quarter will be divided between English, science, and history. As a finishing school, this lacks completeness in range of subjects, and the time given to some subjects is out of proportion to that given to others. In order to maintain its claim of being a finishing as well as a fitting school, such a school must make provision for more work in English, science, and history, and must add such other subjects as become necessary by reason of the changes that are taking place in the condition of society.

Our public high-schools, with their several special courses, have many of the limitations of the special schools, and by trying to carry on parallel courses of study, representing as many special schools as there are

courses, with a limited teaching force and equipment, usually fail to do as good work as the special school that confines itself to one set purpose. Their college preparatory work is apt to be inferior to that of the academy that fits for college, their scientific course inferior to the manual-training or technical high-school, and their commercial course inferior to the business school. The pupil on entering the school faces the necessity of making a choice of courses, which means as much as selecting the kind of special school which he shall attend. The provision for several courses is right in the assumption that there is a difference in what is suited to pupils, but it makes the false assumption that pupils on entering the school know just what is best for them, and may be grouped to correspond with the previously arranged courses of study with all of their imposed limitations and restrictions. Such a school should break down the artificial barriers between the several courses, and make as many combinations as there are pupils, if this becomes necessary in "the thorough exploration of all its pupils' capacities," to use another of President Eliot's expressive phrases.

A school should know and acknowledge its limitations, and undertake to do no more than it can do, and do well. The distinctive character of a secondary school should depend on its equipment, the number of its pupils, and its location and constituency. All that can reasonably be expected in the way of uniformity, all that should be attempted, is that the common ground, the minimum requirement of all secondary schools, be made to include as much as possible, and be insisted on in all secondary schools. Every such school should do whatever is decided upon as a uniform minimum; if it can do no more, let it stop there. A special secondary school should do the minimum, and so much more as is necessary for it to accomplish its set purpose. A complete secondary school should do the minimum, and in addition offer anything that can be profitably undertaken by a pupil between the ages of fourteen and eighteen years, whatever his subsequent career may be. Thus we should have three classes of secondary schools, each class doing the same work, so far as the minimum is concerned, and distinctive by reason of the nature and quantity of the additional work offered.

The question of what may reasonably be required as a minimum in every secondary school is a most important one for the consideration of those in charge of secondary and higher education. I submit the following: Three years' work in a foreign language, preferably Latin; two years in mathematics (algebra and geometry), and one year in science, preferably physics; two years in English (reading selections, and composition), and one year in general history.

A complete secondary school should offer the following: Eleven years' work in foreign languages (four in Latin, three in Greek, two in German, and two in French); three years in mathematics (algebra, geom-

etry, and trigonometry) ; six years in science (botany, physiology, physics, chemistry, zoölogy, geology, and astronomy); four years in English (reading selections, composition, rhetoric, and literature); three years in history (general, English, United States), civil government, and political economy; four years in drawing, freehand and mechanical; four years in shopwork in wood and metal; two years in commercial subjects (bookkeeping and commercial law).

A city with not less than one hundred thousand inhabitants may maintain a complete secondary school, and may conduct it in such a way as to prepare its pupils for life, for college, or for the professional school.

*SHOULD THE AMOUNT OF TIME GIVEN TO LANGUAGES
IN OUR SECONDARY SCHOOLS (AS THEY ARE) BE
DIMINISHED IN ORDER TO MAKE ROOM FOR A MORE
EXTENDED COURSE IN PHYSICS, BOTANY, AND
CHEMISTRY?*

BY DR. CECIL F. P. BANCROFT, PRINCIPAL OF PHILLIPS ACADEMY,
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THIS question is subsidiary to the larger question of the better definition of the field belonging to the secondary school. The tendency has been to give over to the secondary schools some subjects previously assigned to the higher education. The tendency to-day is to throw back upon the elementary schools some subjects heretofore assigned to the secondary schools. The former tendency has reached its limit, and the reaction has set in. The latter is a growing tendency, and has to do with the present discussion. Both have had one aim, and will reach one result—the improvement of all our education.

The question as to the relative time due to languages on the one hand, and to natural sciences on the other, in the curriculum of the secondary school, is confused by the circumstance that, as a rule, the secondary school is providing for two separate groups of pupils, viz.: those who go up into the higher education, and those who do not. It is sometimes assumed, and sometimes elaborately argued, that one course of study cannot suit both. It is often forgotten that a compromise may be possible which is practically, and even theoretically, better for both than separate courses would be, and that possibly the course designed expressly for one group of pupils may be better for both than any attempt either at division or compromise. Once settle where the inevitable differentiation of studies should begin, and many questions are answered at once.

Our particular problem is further confused by the circumstance that

the higher education itself has been violently disrupted into two rival, not to say opposing, schools, in one of which the accent is laid upon the phenomena and laws of the natural world, and in the other on the nature, the phenomena, the history of mind. This opposition is happily passing away.

But neither in the diversity of the upper education, nor in the fact that so few pupils go up from the secondary school to the university, is there sufficient reason for abridging the time usually given to languages in the secondary schools.

The historic regard in which the languages have been held for immortal centuries has been reinforced of late by the prevailing enthusiasm for modern languages, especially for French and German, and most especially by the passion for our own noble but difficult tongue. There is no other expression of thought so comprehensive, so subtle and precise, so universal, so enduring, as language. No other instrument answers so many ends; no other is so fully employed in doing the work of the world. To study language, to master language, to use language, is to acquire a knowledge, to attain a discipline, to practice an art more effective, more vital, more human than have been reached by other agencies. We cannot displace or abridge our language study without a break with tradition, the sacrifice of experience to experiment, and the surrender of the true philosophy of education.

Room has been made for the sciences by a surrender of time, and the languages have recovered the lost ground by an improved method. The demand of the sciences accomplished two things: it won its own cause, and it stimulated the teaching in all other subjects. It has been found possible to do in less time an equal amount of good work. Science teaching, and the spirit of the times which demanded time and recognition for the sciences in the secondary school programme, have made the language teaching more rational, intense, and progressive. The laboratory has not excluded the lexicon; on the other hand, the grammar and the lexicon have demanded for themselves a laboratory, and the languages have taken on methods as exact and scientific as botany, physics, and chemistry. It is now incumbent upon the sciences to make the most of the time already conceded, and to make a gain by an improved method equal to that which the languages have made. Language teaching is greatly indebted to the sciences for the scientific method, and it would be easy to show that the sciences, in turn, are greatly indebted to the languages, and to the methods of the language teachers. Opposition, accordingly, is developing itself into alliance. The classicists do not wish to deprive the scientists, nor do the sciences clamor for the whole field. Improvements in the teaching of certain sciences have been almost revolutionary. It is possible to get still larger results without an increase of hours. A new adjustment will be required by and by, no doubt; but it

is not impossible that it will be not at the expense of hours now given to languages.

The sciences are likely to find, as has been already hinted, additional room for themselves in the programme of the elementary school. The language work there has been diversified by the study of other languages than our own. The child mind has proved itself quick and capable also in apprehending the facts and using the methods of observation and experiment. It is plain that the child mind develops with more strength and symmetry when it has a well-ordered variety of occupation. The next victories of science teaching are to be sought and found in the elementary schools.

The sciences must be content with the time they now have in the secondary schools, on account of the large opportunity which they have when school days are over. Certain studies must be pursued in school, or not at all. Certain other studies are forced upon us by the exigencies of our occupations. The classics, and the related subjects which are denominated classical, are seldom acquired except in schools and under the instruction of a teacher. The sciences, on the other hand, are more easily and more frequently acquired without a master, under the invitation or the compulsion of favoring circumstance. Science studies, in our material and practical age, have a great advantage over culture studies in this respect : Commerce and the arts are fostering the scientific studies. They are helping forward the culture studies also, but by no means so directly. It is the duty of the schools to give the larger place to those studies which are almost sure to find no room in the wider world—especially those studies which lie at the basis of the best successes of the sciences themselves. The school is not, first of all, a workshop or a laboratory, but the center of intellectual life. Its business is to train the mind by every means, but chiefly by the orderly appropriation of useful knowledge, for a wide range of possibilities, for the immediate duties of citizenship, for the sharp competitions of business and society, for personal happiness and self-realization ; but, above all and including all, for the full and free exercise of every moral and intellectual power. In arranging a school programme, as between the sciences and the literary studies, it is necessary to keep in view the largeness of life, and the worth of man apart from all he does and all the influence he exerts. It is hard to find any one versed in the new education who would at present displace an hour now devoted to the sciences ; and it is, I think, harder than ten years ago to find an advocate of the sciences, who is also versed in the science, the history, and the art of education, who would withdraw from the secondary schools an hour of the time devoted to the languages. Time given at the outset grudgingly is now accorded willingly, and the disparagement of the old education has given place to a grateful recognition of its coördinate value in the training of the coming generation.

SHOULD LANGUAGE STUDIES BE LIMITED IN SECONDARY SCHOOLS AS THEY ARE IN THE INTERESTS OF THE SCIENCES?

BY DR. D. W. ABERCROMBIE, OF WORCESTER ACADEMY, WORCESTER, MASS.

GREAT as has been the change in the courses of study of college preparatory schools in the last quarter of a century, all students of education would agree that the changes noted during this period are merely prophetic of a greater development that is at hand—an impulse beginning in the university, and working down through the lower strata of educational institutions. Such great awakenings are always from above, and when, more than twenty-five years ago, Harvard University promulgated its scheme of elective studies, a current of influence was started that was destined to revolutionize the conditions of education, not only in that ancient seat of learning, but in all other colleges and universities, and also in the secondary schools that feed the higher institutions. This most important incident in the history of higher education in this country discovered to the college one of its chief functions, and assured it of one of its highest prerogatives. To outline and develop courses of study, to exercise leadership and do pioneer service in educational movements, is one of the principal avenues whereby the college is to make returns to the community at large for its great endowments and opportunities. To experiment, to prove, and then disseminate sound educational doctrine is a far higher work for a great educational institution than merely to send forth each year a number of men who have completed its curriculum. So does it prove its wise stewardship of the large bounties it holds in trust. In this way is its duty to the nation honorably met and its essential relation with lower institutions acknowledged. The high censorship in educational matters, so necessary among a people where there is so little coherent power that commits institutions of similar and different grades to the same wise policy, belongs to the university.

While the different members of our educational body have been far from ideal in their mutual relations, still there has been a sufficiently distinct articulation of the various parts to insure a marked response from all when the call came from Harvard summoning to a scheme of study that was wisely progressive and safely liberal, and that sought to harmonize educational methods to the actual needs and practical life of this great country, to the end that the college graduate might not become un-American as a result of his college training, but that he might become a better citizen, a wiser guide in the solution of the great problems that are to be presented to us. The great propaganda, then, that was boldly put forth

by Harvard a generation ago not only ushered in the dawn of the new education in this country, but it definitely gave the leadership in education to the university and college, and forced secondary schools to follow in a large way the course marked out by the higher institutions. While the secondary school that has individuality—and to be excellent its personality must be vivid—will always have a curriculum that will mark its identity, still, from its very terminology and from its place in the scheme of education it is ever a preparatory school, following in a large degree the lines marked out by the higher institutions. To be preparatory it must do much of its work with full reference to that more advanced life of the scholar into which it seeks to introduce its pupils in the college and university. In other terms, the work of the college and university inevitably determines very largely the character of the work in the secondary school. With the intimate relation between the higher and lower institution thus established, we draw near the statement of the first reason that compels a readjustment of the studies in preparatory schools.

When the writer passed the entrance examinations to Harvard University twenty-one years ago there was one prescribed way of admission, and only one. His preparation was gained in the Cambridge Latin School, confessedly as good a school as sent boys to Harvard at that time. The requirements were as follows: The merest smattering of physical geography, gathered from verbatim recitations from a little manual, the time for which was stolen from the first or last ten minutes of a three-quarter-hour recitation in Latin, Greek, or mathematics. This was the full extent of a boy's training in the sciences required for admission to Harvard twenty years ago. To complete the course there were four years' study of Latin, three of Greek, a year's work in the classical history of Greece and Rome, arithmetic through mensuration, algebra through quadratics, and plane geometry. No French, no German, no English, no science; for the requirement in physical geography, already referred to, cannot be mentioned seriously except to emphasize with a keen sarcasm the complete absence of all scientific training. This preparation admitted a boy to a college where the elective system was already sufficiently in operation to dominate all of the work of senior and junior years, and all but four hours a week of sophomore year, with the exception of three or four themes and forensics a year.

Could the Cambridge High-School, which may be fairly regarded a type of the schools of its class, be reasonably called a preparatory school to Harvard University, in view of the meagre preparation it gave a boy to make a wise choice and selection of the rich volume of elective studies invitingly spread before him on the university schedule?

But it is to preparatory schools as they now are that our argument in behalf of an extension of science studies and a limiting of language studies is to be directed. It will be found, however, that this same dis-

parity between preparation for scientific studies and the extensive field opened up to students on entering college, a disparity that amounts not to what is humorously called a "college fit," but to a most distinct misfit—this disparity, I say, that existed twenty years ago, has not yet been removed; for while it is true that schools that pretend to give a boy a thorough preparation for college, a preparation that enables him to do the higher work with ease and profit—while such schools have undoubtedly made large additions to their courses of study in the sciences, still the colleges and universities have vastly developed the area covered by them in these subjects. So that in reality the gap between the amount of science done in secondary schools and colleges to-day is as great as that which existed twenty years ago.

The point urged is this, that in view of the extension of the elective system in the higher institutions, and the remarkable development that has been made and must continue in nature studies, the secondary school cannot be regarded a preparatory school unless it fits its pupils to enjoy the large privileges offered to them in the sciences by the elective system as it now holds in college and university.

Preparation for the elective system, then, makes necessary a considerable development of scientific rather than language study in the secondary school. Language studies, the humanities, never to be discarded or ignored, have long held preëminent position in the curriculum of the schools. The enormous stimulus that all departments of knowledge have received in this century has been felt most sensibly in the sciences, not only vastly extending the range of human knowledge, but revolutionizing methods of study in all departments.

The elective system, while greatly enlarging the lines along which men may push study and investigation, points for any one student in the direction of specialization. Specialization means centralization, the focusing and massing of the powers of the mind to the prosecution of mental work for which a man has special aptitude. It means to "note well wherein kind nature meant us to excel," and when we have caught the plain hint from nature, to call into operation all resources to develop this taste and follow this bent. It is the logical expansion, under the great increase of knowledge in these last days, of the wise dictum of Ascham: "Small area well cultivated."

Again, a wisely ordered scheme of study will inevitably apply a divining rod to the untouched and unsuspected mental resources of a pupil, because it will be inclusive, and from its very breadth will lie tangent to a greater variety of types of mind.

This is not the folly of saying that any one course of study will create brains where none exist, or touch gross stupidity and warm it into mental life and activity. But it is the experience of every teacher that many a pupil's mind has lain barren and unproductive, though the virgin soil

was far from sterile, because the seed has not been sown to which the constitution of his mind was congenial. The elective system gives the boy the needed opportunity to meet the true nature of the student's mind, to touch its dormant powers, to awaken its sleeping life. To put the mind in motion is the teacher's first duty; and is it not his highest art? How inadequate has been the stereotyped curriculum of the past! A just sentence lies against it for its procrustean rigidity and formal inflexibility. Ample, possibly, to furnish a man for the duties of the restricted and undiversified life of the days of monasticism and the cloister, but woefully deficient to equip him for these days of enormous energies.

The unwisdom of the adjustment between secondary schools, and the higher institutions has been among the marked defects in our educational system. This ill-adjustment has been apparent nowhere so much as in the constant expansion of the elective system in the colleges, and the rigid holding to the old schemes of the secondary schools.

The lack of coherence between the two kinds of institutions has been glaringly apparent. Latin and Greek have barred the way to a larger and wiser educational career, to a degree harmful to different types of mind, and to an extent not required for the retention and cultivation of these languages in school or in college. I instance these two languages because they have historically coerced other lines of study. No indictment can rest against French or German, and much less against our own mother tongue, for any such usurpation of the time due the prosecution of other subjects.

I am among those lovers and teachers of the Greek language who feel that its place in any scheme of study that would lead to a liberal and elegant education rests on far more substantial foundations than mere tradition and prescription, and that it will continue for intrinsic reasons of the greatest value to educate and train the mind of man as long as studies are a delight and an honor.

That a pupil, then, may be ready to make choice of the liberal provisions of an elective system, he should be given a wider range for sympathy, taste, and aptitude in the preparatory years of his school life. This amounts to saying, in other words, because of the traditional curriculum of the secondary schools, that more room must be made for natural science. To bring this about there must be a pruning of the time devoted to language studies. This adaptation of the course of studies in the secondary school to the elective system has been seen to be attended by an advantage of very great value—the earlier opening up of a wider range of sympathy, taste, and aptitude to the young student, that a teacher may not always be “punishing nature in a scholar,” as quaint Thomas Fuller phrases it, but that the pupil may have a better chance to discover what tastes are natural to his mind, and what acquired, through the larger variety of subjects presented to him.

There is a third reason of great value why a larger study of the sciences should find its place in secondary schools at the expense of language studies. This reason is of special pedagogical interest.

The curse of much of the effort in education, whether in secondary school or in college, has been in the past, and still is, that subjects have been so largely taught as mere matter of information. There can be no doubt that it is well to be informed on as many subjects as possible, but it is a truism in pedagogics that information is not training and power. Possibly the reason for this serious fault in educational methods is very largely found in the unpractical and theoretical character of the body of the subjects that have filled up the schemes of study so generally in the past.

The recovery from this fault lies in the prosecution of nature studies. They at once present facts of a different order; phenomena appear; we see, handle, observe, infer, coördinate, classify, establish laws, generalize. Immediately we find how silly and inadequate would be any attempt to teach science and explore nature merely to see a fact. Facts present themselves; we note them, and do well to remember them, but in the use we make of these facts lies great mental training. Attention, comparison, judgment are stimulated. The highest operations of the mind are called into play, and we find the chief value of facts thus gleaned to be, to our minds and to those of our pupils, their disciplinary value and not their worth as isolated, disconnected facts. Education is training, discipline. All that trains and disciplines educates. The great value of scientific study is that it induces and compels the alert and quickened sense. Perception is vivid. Language studies may be, can be—nay, more, should be—taught as disciplinary subjects, but they are not so susceptible of this as science studies are.

So fully are we of the Worcester Academy convinced of the great importance of this fact, that we require a full year's work in laboratory physics of every pupil who would finish our course, whether going to college or not, or to whatever college going. When fathers write us, asking whether we "coach" for this college or that, remarking that physics is not required for the college he wishes his son to enter, our uniform reply is that we "coach" for no college, and that as far as physics is concerned we are a law unto ourselves. But we discover power in many a boy where it had not been suspected, and equally we find limitations of mind where Latin and Greek had not revealed them. There should be, then, an enlargement of the sciences as subjects that invite to disciplinary studies rather than to studies of mere information. Then what may have been difficult mental processes become easy and familiar; "lines of least resistance" are established; careful observation, logical deductions, and accurate generalization become the habit of the mind by training. The power to observe carefully, to collect facts, make comparison, and infer general laws

is the highest work of the educated mind. President Hall, of Clark University, once humorously spoke of the career of the ordinary college undergraduate as a "four years' exposure to the contagion of a liberal education." There has been a large basis of fact for this witty satire. Much of the occasion for it is due to the character of the studies that have so imperiously controlled the college and school curriculum in the past, and to the unwise methods of instruction that have prevailed, by which so many subjects have been taught as information rather than disciplinary subjects. The classics have exercised leadership among the other studies of the schools, but this primacy is hereafter to be shared with other groups of subjects.

There is a still further reason to be found in the very nature of the various sciences which should lead to the enlargement of their place in the schools.

While it is broadly true that the training to which reference has been made should be sought very largely for itself, still there are other reasons that suggest and command training in the sciences, that lie outside of the resulting mental discipline, and relate to the use to which specialized study is to be put when the days of student life in school and college are over.

Election and specialization in college should be determined not only by the use to which the student may put his knowledge, in case he himself may in turn become an instructor in his chosen department, but also by the use which the student may make of his training in the commercial world. Trade, commerce, manufactures, inventions are more and more to require the specialized training of the schools. Schools of technology and the scientific schools of the great universities mean this, and mean this alone; and the secondary school should be in the line of promoting this application of a wise and thorough study of physical laws and forces to the improvement of the conditions of human life.

In conclusion, the time needed for an expansion of the study of the sciences must come from the languages; mathematics cannot supply it, for mathematics have received only moderate development in the secondary schools during the past twenty years. Solid geometry is taught in some schools, as is plane trigonometry, but in only a few relatively. The time devoted to them cannot be curtailed, for instruction in the sciences, physics notably, requires all the mathematics a boy can get outside of college, as studies are now arranged.

The languages must supply the needed time, and science study should be developed.

DISCUSSION.

MR. W. T. POYNTER, of Shelbyville, Ky.: I have another objection to the paper, beside its tendency to add another burden to the preparatory school, already overburdened, and incompetent to do its work thoroughly. Now we are told, in order to prepare for that wonderful elective system, that modern fad, we ought to take on a whole lot of sciences in the preparatory school. Gentlemen, it cannot be done. That is all there is about it. Down in my State I am known as rather progressive in religion, but I am an old fogey in education. When you talk to me about your new education, I don't see it, and I don't believe it is there. I believe in this: The public schools lay the foundation of education; the preparatory schools take up that work and fit the pupils for college, with Greek, Latin, and mathematics. The colleges take the pupil and fit him for something higher; and when he gets through with the college, they let him go to the university, where he can make an election. But the tendency to-day, to find out the affinities of the child of thirteen or fourteen years, and find out what that child is going to be fitted for, is, and must be forever, a failure. Every practical teacher knows that a pupil coming into a school will pick out the easiest course of study, in the age in which he comes. Did you ever see a pupil who came into a school where there were two or three courses of study, if left entirely to his own desires and inclinations, who would not take the easiest? I have had hundreds of instances in my school, where girls have cried for a week because I forced them to go into Latin. And afterwards they thanked me that I forced them to take that study. Down in my country, a few years ago, it was an almost unknown thing for a girl to study Latin. We have heard every year,—what good geometry is going to do a girl. And the idea of a girl studying Greek was not heard of. What we need in the primary and preparatory schools is fewer studies and more deference to those studies. I have heard more about science since I came into this room than I have heard for years.

DR. MOSES MERRILL, Head Master of the Public Latin School of Boston: It is very fortunate for the last gentleman that he was not speaking in New England, or he would have been called a heretic. But he does not care for that. I agree with him, although I am from New England. I was quite comforted by the way in which this question was arranged, as to whether the amount of time given to languages in our secondary schools (as they are) should be diminished in order to make room for a more extended course in physics, botany, and chemistry. I don't think we have ever had the question put in that form before; it is a good sign. Heretofore it has been, Ought not these studies to be added to the course in the secondary school? I think the last gentleman is completely right. We cannot add; we must restrict. It seems to me, also, we must settle in our own minds what the degree of A.B. is to stand for. It has been, until within a few years, supposed that it ought to stand for nothing but the linguistic preparation for college, with a continuance of the classical studies in the college. And that was true, especially with the Eastern section of this country. That is not the sentiment now. Therefore, what must be the preparation for college? It must be divided. The school or parent must settle early in life the course of study the child shall pursue to get a liberal education. I am very glad that things are getting equalized. The boys in New England are dropping Latin and Greek, and the girls of the Mississippi Valley are taking them up. So we shall have more equality as time goes on. I believe thoroughly in the discipline that comes in the study of the languages. I am as much of an old fogey as the last speaker. I think I would have the girls and boys begin their classical studies at eight or ten, and be prepared for entering college at sixteen or seventeen, and know something about languages, and not try to know only very little or nothing about a great many things.

I think I would have a prescribed course continuing in a large measure in the earliest part of the college course. Still all these other subjects are very important, and perhaps, when it comes to practical life, the most important. The number of those is comparatively very small who, on entering into life, take up their vocations on the preparation in colleges and secondary schools that comes from a study of the classics. Therefore there must be a division. Secondary schools must be founded and carried on on the plan of preparing children for college outside of the linguistic course. I have in New England, I think, obtained evidence that the study of the classical languages, so called, is a very great advantage to boys and girls who are going to pursue a scientific course. It is certainly true in the institutes of technology. We have

obtained evidence that boys who enter the institute with a good knowledge of Latin are very much better prepared for the work than those who have none or very little knowledge of Latin. The study of Latin must continue to be an important factor for the preparation of any school above the secondary school.

It seems to me we have got to change our reasoning in regard to this whole matter, and come back to the principle which I first laid down; that is, that we must determine early in life what the child shall do, as far as we can. And I think we are committing another mistake in the present day in not insisting that the children shall do some work that they do not exactly like. That when we start them in a course of study we are not to judge at once that they may not make good scholars or do good work because they do not happen to like this study or that. I think one of the best things I ever heard is. "Why, if you don't like that study, that is the very reason why you should take it and pursue it." I don't mean that that should be carried to the extreme; but this present idea that we have, that every child shall only do the work for which he has an aptitude and liking, is a mistake in our system of education. I firmly believe that for the first sixteen or seventeen years in the life of the child, the study of the child, the instruction of the child, should be very disciplinary. I don't think we can possibly confine the work in secondary schools simply to preparing for college. That idea makes the question very much broader, and I will not go into that, because it would take too long to indicate the distinction between these schools.

MR. BOLTWOOD, of Evanston, Ill.: I have yet to know of a high-school that was not always thrusting its lack of scholarship on the grammar school. And I have yet to know of a college that did not excuse its work because of the manner in which the preparatory or secondary school did its work. It means this: We are impatient for certain results. We want to turn out good average scholarships for work. We want, as has been said, to work on the lines of the least resistance, and the teachers are just as lazy as the pupils.

Why give Latin and Greek so great a prominence in the educational course? Partly from their value—and I would not underrate their value—and partly because with these the teacher feels his foot is on a rock, away ahead of the pupil. And there is another reason. The apparatus of instruction is so simple. All it costs is to put into the hands of a child a grammar and a reader costing two dollars and twenty-five cents. If they are going to teach physics, they will need to have a good laboratory. Now, do you know, there is very little outcome from the study of physics and the sciences, largely for the want of time. We don't carry it far enough to produce educational value. When we take up sciences, we give physics one year, and we give Latin four years. And when the pupils pass into the colleges they are compared in the same way; that is, one year for physics, with Latin four years. In other words, we are not working to an end.

The elective system has come into our colleges to stay. The question as to the time when the student shall elect is a very important one. Our friend from Boston says they might begin at nine or ten years. A great part of our primary education in the preparatory school is necessary that the teacher may find out what the child is fit for. I believe that pupils should take languages that they don't like. When the election is made at the end of the second year, I believe they make mistakes. In other words, there must be in all our preparatory work a certain foundation of general culture.

Now, in the preparatory school, suppose you take Latin four years, and take Greek two or three years; it leaves two years for mathematics. That must be, of course, somewhat elective. I think it would be better to carry one longer. I notice in the German schools they very frequently carry a subject for six years, with only two recitations a week. For example, French is carried five years. That same subject is taken up with two subjects a week and carried six years. As it is in some of our schools the subject is taken up early in the course, then dropped out entirely and forgotten when the pupil enters college.

We talk a great deal about what pupils can do. I believe that requiring a pupil to carry three studies, and three only, is a mistake. I believe the average pupil can carry four, if they are judiciously taught. Our pupils are not overworked. The trouble is that there are so many outside influences which cut into the time, that the mind is not on the work as it ought to be. I notice in most schools whose courses I have examined, that three studies are considered proper. In my own I have three and a half. I have a good deal of alternate work with drawing and English, so that the pupils carry four daily exercises.

Now take physics. Except early manipulation, which is like manual training, the maturity of the mind required to do much in physics is not to be found. I have been compelled to put physics later in the course in the second year. I found the pupils,

early in the second year, were not mature enough to do what was expected of them. I have put it later, that they may have algebra and chemistry.

I believe time can be found in the school for more work. I do not know whether it is to be at the expense of Latin or Greek. I am not prepared to say that I have very positive convictions, but I do say that, by the present standard of the Chicago University, we cannot spare one single lesson out of the year and do it as thoroughly as they expect it to be done. We must do it by educating the public to the idea that the pupil's time should be more thoroughly given to his work, and finding some place for four instead of three recitations. And if anything is to be let go, it is that which will not be required for an admission to college.

In my own preparation for college I had one term in physics. That is more than many of my class had. I had one term of instruction in physics, with the advantage of attending a good course of lectures in college. I found it valuable to me. We cannot in many of our colleges spare the time for Latin and Greek.

There is more demand for Greek in this region than there was three or four years ago. The Chicago schools threw out Greek, but they put it back again. In my own school many more now take Greek than a few months ago. The requirements of the colleges are rising constantly. I don't object to that if they balance it up, and if they don't insist very strongly on more English, and then only allow credit for one year. I think the remedy is that the work must be done by carrying more subjects and distributing them over a longer length of time, so that the mind shall become more active on the subject.

THE CHAIRMAN: If Dr. Bancroft, of Andover, were here, I think he would follow his paper, in view of the discussion, with a single remark. He states distinctly that in his experience it has been found that better methods have enabled the teacher to cover the required ground in less time. I recall a quarter of a century ago, when I was at Phillips Academy, they had no sciences and no drawing. That same academy is fitting boys in the maximum requirements for the Harvard University on the new scheme, and they do more work, and still find time for physics and chemistry and drawing. It is very important that emphasis should be placed on the matter that Dr. Bancroft has so profitably presented, and a phase of the matter which has not been referred to by any person who has spoken. Let us emphasize the truths of the princely men who have been teaching the classes and have laid tribute on the best things in teaching; who do their work better and in less time than those (thanks to the teachers of the sciences) who have put us on our mettle. Let us not, because these people are pressing for certain things, feel that we are necessarily compelled to surrender everything.

Dr. Harris has an idea which, if you will pardon me, I will throw out in connection with this discussion. Speaking of the bifurcation that may be made in the courses of study, Dr. Harris insists that it should take place at the latest possible hour, because every mortal human soul may be regarded as possessing many windows, and it is the business of the school to open as many of these windows as possible; and when you shut a boy off at nine or ten you have probably shut eternally a great many windows out of which that soul would like to look.

W. H. SNYDER, of the Worcester Academy, Worcester, Mass.: In our school two years ago we decided that physics should be taught in the classical part of the school. We decided that it was a study that ought to be taught regularly, and it was ingrafted upon the junior year, already somewhat crowded, as an extra study. It was placed in three afternoons of the week. During this time there was to be done the maximum amount of work required for Harvard College, which consisted of forty experiments and a great deal of text-book work. It consisted of a great deal of mathematical work to pass examination. This was placed on the junior year, nothing being taken off. At first the boys considered that they were overworked. They worked very hard, and had to. At the end of the year they concluded that they were not overworked, and they were glad that they had taken physics, because that opened for them entrance into any college in the United States. The next year we did the same thing, putting extra requirements of English on the boys. To make up for this, during the last part of one term we dropped out one recitation in Latin, and one recitation in Greek for the first part of another term. At the end of the school year the boys in the course, who at first vehemently protested against the scheme, came to me and thanked me, saying they had enjoyed it and were not overworked.

Now, as to the use of scientific studies in our secondary schools. Our language studies have been very much increased in the last ten years. To-day our best schools will take up as much Latin and Greek as the colleges took up ten years ago. We take Cæsar and

the five orations of Cicero, and Virgil. We take part of his *Bucolics*, and we take Solon. We take up in our first year the *Iliad*. It is read in the secondary schools now, where it wasn't read in the colleges ten years ago. Now, if there is asked a little retrenchment, it should come from the time which does not belong to the classical work. Principal Bancroft, in his paper, said that scientific work could be picked up afterward. Any teacher of science that has done anything in the sciences knows that this is a fallacy. A man may take up a smattering of the sciences, so that he may go out and expatiate on the beauties of nature; but he will never get any accurate scientific knowledge himself unless he is an exceedingly scientific man. It is not the science we are trying to ingraft in the present schools, but it is simply the old textbooks that somebody has discovered for you already.

There is no doubt but the elective system in our colleges has come to stay. It is being placed in all our colleges; while a few years ago it was only in the larger colleges, to-day it is in the smaller colleges as well. Now take a boy from the secondary school who goes to college without ever having known anything about the sciences. He has no idea whether he has any capabilities for them or not. He knows he has passed the requirements in Greek and mathematics and Latin, and there he will continue, thinking he can carry them on, or else he will branch out for science, not knowing why he wants it. We call our school a preparatory school; yet we don't give them any preparation at all to judge of what they are best capable of doing. If young men are going to higher institutions, and choose those things in the institutions which will be the best adapted for them, they must have some preparation before.

I had an experience along this very line, and you will pardon me for this personal reference, because it applies to this point. A young man came to me who had graduated from a classical department, standing very high; who had taken both chemistry and physics. He was placed in the chemical laboratory, and given something to examine. He got along while the experiments were described, but when he was put on qualitative work he totally failed. For the first six or eight years he did hardly anything. It wasn't a memory subject; it was simply a subject he must absolutely observe. He could not do it. Suppose that boy had gone into college; he would have taken a high rank along one line, and an exceedingly low rank along another. Now, wasn't it far better that he should know what he would want, than to waste the time in his college course? We must prepare for those things we are going to choose just before we go into college.

Our time is wasting. Our boys enter college late enough; they graduate late enough; they enter life late enough; if they are to choose rightly before they enter college they must know something before they enter college. It is not going to be a complete waste of time if physics and languages are taught right. For instance, take English, a subject that is usually much talked of; and we ought to know something about our own language. I contend that English can be better taken in a course of experimental physics than in any other way. The boy says, I have nothing to talk about; therefore I cannot write. In a course of chemistry and physics the boy describes the experiment in his note-book; and if he has done that he has written a composition, and he has told something he knows about, and expressed it rightly. He has not been verbose about it, and he has got some fine training in English. He is taught to observe; he is taught to note; he is taught to reason; what more will he be taught by other subjects? We shall not lose much even if we take time for this from Latin and Greek. It cannot be taken from mathematics. A boy must have mathematics in order to take up these sciences. It is utterly impossible for him to do the work of algebra and geometry without them. This little time we add in can be given to us by slightly shortening these courses, even if it cannot be ingrafted.

R. E. CUTLER, of the Northwest Division High School, Chicago: *Mr. President and Fellow-Teachers*—There has been one aspect of this subject that I was very anxious to see brought before this assembly; and, as the discussion seems to be passing without its being presented, I feel called upon to say a word. We have in most of our high-schools two courses—that is, in the larger high-schools. We have the college preparatory course, and the general course. Those high-schools that are not large enough to have the two courses usually have the general course, and dispense with the preparatory course. I want to say a word for the general course. It is an experience that comes to me every year of my life, having charge of the fourth high-school of this city. The students come to me for advice in regard to what they shall do without going to college after they have finished the high-school. Now, theorize as we may, the fact is before us that the ordinary student, before he enters the high-school, has not any idea whether he is going to college or not; and usually it is the student who decides

this question and not the parent. I grant that there may be exceptions to this, in some of the Eastern cities, where the parent plans for his boy from the time the boy is four or five years old. I grant there may be exceptions to this where the parent is himself a college man. The great majority are those who do not know whether they are going to have a college education or are going to finish in the high-school. And this being the case, nine times out of ten they will take the general course.

The question comes to most students, Shall I go out into life with the preparation I am getting in the high-school, or shall I go to the university, or to the college alone? This question comes also: How will my high-school preparation fit me for another college? And then, for the first time, the student is brought face to face with the fact that he has only one language, and the college requires two. And usually not less than three years in each of the two languages. The college requires German and Latin, or French and Latin, or Greek and Latin; and the student perhaps has had four years in German, or has had four years in Latin and has no Greek, or has only one language. Now, under those circumstances, he has had his preparation of four years on one science or another. And he has had his four years divided between mathematics and English, and such studies as algebra, chemistry, history, literature, and so forth. Under these circumstances, if it is true, and I believe it is, that science is a culture study; if it is true that general history is a culture study, that the study of English authors is a culture study; that it trains the mind and prepares one for the higher regions of thought and learning, why cannot the college accept the students as we make them in the four-year school course, instead of sticking to the old-fashioned idea that no one shall enter their doors who does not have two languages? It seems to me there should go up a cry to the colleges that they should have at least one of their courses in which they would accept our ordinary high-school student.

Now, I recall to mind two students who, during the last year, were freshmen in Beloit College. They were good students. They said: "Let us go, and try to make up what is lacking." They were permitted to do so. They made up what was lacking, and they passed to the sophomore class in Beloit College. But you say that is a Western college. True. Probably that might not be done somewhere else. It is only remarkable students who can undertake to make up the language when the colleges require two languages. This question is under discussion among the college faculties themselves. In our own University of Chicago the question is a burning question there. I had a conversation with one of the professors of the University of Chicago, presenting very much the same thoughts I have presented to you. He said to me: "Will you go with me to President Harper, in order that we may present this same idea to him?" And I found from that conversation that they were considering this question. I don't want them to merely consider the question. I want them to yield to this demand; and they certainly will be more apt to yield to this demand if that cry comes up from us. I don't want to say there shall not be any Latin; I don't want to say there shall not be any Greek. I say, let them give our students a choice in some of those courses.

THE CHAIRMAN: We have still some time left for the discussion for this thesis.

MR. BOLTWOOD: The Chicago University has made one move in the direction just indicated by Mr. Cutler. That is, they have in their last requirement thirteen credits, and the pupil who can make up his thirteen may have a very wide range. He is required to make up his thirteen credits in that way, and that has added to the possibility of the pupil passing to the university from the high-school. The weak point is, that they allow but one year's credit for English, no matter how thorough the course has been; and it is one year to general history, when ancient history has the credit for half a year. There is some objection to this schedule. Their plan is, whatever the pupil lacks of these requirements he should take up in college. The candidate has the option of the subject; he can make up anything that is on the list. I think the list takes eighteen, or even more than twenty; but the list does not cover most of the languages taught in the high-school, so the pupil could make his thirteen credits. I understand that is substantially the plan adopted by the Stanford University.

DR. EDWARD OSTERBURG, of Sweden: *Ladies and Gentlemen*—I rise with some hesitancy, because I am not sure that I shall be able to explain to you what I mean in a tongue that is not my own. It has been very interesting to listen to the discussions here, but at the same time I cannot deny that it has been somewhat disappointing. When I came from the other side, from the old country, and came here, I wanted to hear more advanced ideas than I have heard hitherto. Yesterday, for instance, there was a discussion about the specialization of the schools; and there were a great many who advocated

that in early years the parents of boys or girls should decide what course they should take. I think that is to forget that boys and girls are all of the same kind for fourteen or fifteen years of their life. It is not a question of what they shall be developed to ; it is a question of what is the girl and what is the boy to have. When a boy or girl is fourteen or fifteen, it is time to think of specialization. Until that time, I think, they ought to be educated almost in the same way.

Then I come to the question that has been discussed to-day. There is the question about the subjects that ought to be taught in the secondary schools. Now, I have some difficulty to express my opinion in this respect, because we have no secondary schools in the same meaning that you have. It seems to be rather a conflicting system that you have when you divide the instruction into primary schools and grammar schools, and then you put in the high-school, and then the college, and thereafter the university. I think you might include in the secondary school two or three years of what you take in colleges. Thereafter I would recommend the destruction of all colleges, and begin university life.

What should be taught in secondary schools ? I say, first of all you should teach young boys and girls to know their surroundings ; that is, the sciences. They should know the life of personality. They should study history ; they should study the languages. Of course, mathematics must be included. The study of language should be a very important part of the curriculum ; and not language, but languages. I think the importance of a full study of the mother tongue cannot be exaggerated. It should be a study of the literature, so that the boys and girls, when they once leave the school, know their own tongue, and know their own literature, and feel it is a pleasure in their literature to know the great authors, and know the great characters of literature. They should be educated in good penmanship. If you give the boys and girls these you will give them something that will be of the most intrinsic value in their lives. You should not lay too much stress on teaching many languages. If you have learned one language, and by that been able to learn the great thoughts of great men, why should you learn them over again for year after year ? It is necessary, of course, for us to know at any rate one of the foreign languages, so that we can communicate with other persons. It may not be so necessary for you Englishmen and Americans, whose language will become the language of all mankind. (Applause.) But, anyhow, it may be necessary even to you, in order to be able to study your own language the better, to study one language, at any rate, of a foreign country. What foreign language should that be ? If it is a question of what language should be taught in the school, I should certainly say not Latin and not Greek, but a modern language. We in our country are divided into two great parties, those who advocate Latin and Greek, and those who advocate the modern languages. I think of those who advocate Latin and Greek, the number has decreased. In fact, Greek is almost excluded from our schools, and Latin is beginning to retreat more and more. And so now I think there is a commission, in Sweden, to discuss whether Latin ought not to be delayed to the fifteenth or sixteenth year, so that only four years in our school should be given to the study of Latin. It has been a very hard contest between these parties in Sweden, and I do not wish now to go into the details of that contest.

I am sure that it will not hurt, but it will advance, the progress in our schools if we do not study too much of languages. I think that we should do well if we deferred the study of Latin and Greek to the later stages. But in the universities a great many say, Can you expect the university to teach the rudiments of Latin and Greek ? And I say, yes ; and I know there are some who have been successful. I think the same experiment has been made in England. I heard that Miss Ramsey had obtained the greatest honors in the university course, and she had actually not taken her study of Latin and Greek before her seventeenth year, if I remember rightly. Now I think that we, in Sweden, are following the right course when we more and more delay the study of Latin and Greek, and defer them to the universities. By doing that, the study of Latin and Greek can be a really scientific study. But are you not cutting off the historical continuity ? one might ask me. That is preserved by studying history. And when you study history you ought to study history of the old nations, and the history of their institutions.

Now I think the people who recommend the study of Latin and Greek have invented several reasons. First, that Latin and Greek are more proper to develop logic. Don't you think that the sciences and mathematics are more able to develop logic ? I think that the reasons that have been invented afterwards are to be compared with the fortification that the general makes when he is ready to surrender. He binds the fortifications around him, and he cannot come out from them without surrendering the place.

MISS CORDELIA KIRKLAND, of San Francisco : I would like, as no woman has spoken, to put in one word. And that is, that we are Americans, in the first place ; that our language is English ; and, far more than the language of Sweden, our language comes from the Greek and the Latin. I don't believe we can ever leave them out of a first-class English course. I think in our methods of study we are trying to keep one foot on the new steam-engine and the other back on the old apple-cart. Any one who has had Latin and Greek feels it to be an immense importance to his English to have Greek as well as Latin. But how do we study the Latin and Greek ? By grinding away at the old grammars that, I think, Erasmus left us. Why not change the pronunciation, instead of grinding away on the old Greek grammars, and make Greek a live language ? I am told that you can go with your knowledge of ancient Greek to Athens to-day and read the daily newspaper perfectly well, but that you cannot speak with the modern Greek, because your pronunciation is so different. Is it not very possible to study Greek as they speak it in Athens to-day ?

THE SECONDARY EDUCATION OF GIRLS IN FRANCE.

BY M^{LE}. MARIE DUGARD, PROFESSOR AT THE LYCÉE MOLIÈRE, PARIS,
AND MEMBER OF THE FRENCH COMMISSION ON SECONDARY EDUCATION.

I WAS honored with the request to give some account of the secondary education of girls in France. This is a very large subject, so large that it is impossible to give a complete idea of it in a short discourse ; all that I can do is to present a general idea of the question.

The secondary education of girls is quite new in France, though it has been desired for a long time ; it was formed in 1880. Before this year we had for our girls only primary schools, public and private. Some persons, feeling that girls have the right, as well as boys, to receive a higher education, and also that the best way of expanding civilization is to increase instruction among women, tried to remedy this state of things, and opened private schools where the education, if not quite secondary, was certainly above the primary teaching. In 1867 Mr. Duruy, Minister of Public Instruction, went further in introducing public lectures for the secondary education of girls. These lectures met with a strong opposition on the part of a certain class of people who hold to traditions and think that learning is not good for women, because it prevents them from fulfilling their duties as wives and mothers. In spite of this, the lectures succeeded ; but they did not prove to be sufficient to comply with the wants of the time, and their best result was to show that we were ready for a more thorough system of secondary education for girls. Another and decisive step was taken some time after, in 1880 ; the Parliament passed the Law Camille Sée—so called after the name of its promoter—to have lycées for girls ; and almost immediately after the first lycée was opened in Montpellier. Now we have about fifty lycées or colleges, and fifty “cours secondaires” which are to be turned into lycées in a short

time. Three of these lycées are in Paris,* and one of them is attended by some six hundred pupils.

It was not sufficient to have lycées; we wanted teachers. A normal school was opened in Sèvres, for the training of teachers for girls' colleges. To enter this normal school, young women must be at least eighteen years old, must possess either the higher grade of the primary education, viz.: the "Brevet Supérieur" or the "Baccalauréat," and must undergo some severe examinations, for letters or sciences, according to their choice. They remain three years in the school; after the first two years they have to pass an examination to obtain the "Certificat d'aptitude à l'Enseignement Secondaire," and if they succeed, they have to pass next year the "Agrégation," which enables them to be appointed as professors in a lycée for girls. Let me remark that it is not absolutely necessary to enter the normal school to become a teacher in a girls' college; the essential condition is to have the "Agrégation," and it is not at all impossible to take this grade without the preparation in the normal school. What this Agrégation is would take too long to explain; it will be sufficient to say that—though it requires no Greek and Latin—it is a higher grade than what is called here the B.A.

We not only have women to teach in our girls' colleges; we have men, who are generally teachers in lycées for boys at the same time. It is a question often discussed among us whether it is better for a girl's mind to be trained by men or women. And if she is to be trained by men, when must this training begin? When a girl is twelve years old, younger or older? The question is not quite solved, but we generally think, and we act accordingly, that when a girl is fifteen or sixteen years old it is good for her to be trained by both men and women; by men, because she must acquire some of the strong qualities of man's mind, method, faculty of abstraction, power of grasping ideas and generalizing; but not only by men, because she might lose some of the qualities of her sex.

Some words about the time devoted to work and the division of studies seem necessary now. The girls have generally two lessons of an hour each in the morning, and two in the afternoon. After the lessons, they can return home or stay in the lycée, where they have grounds to play, dining-room for their lunch, and studying rooms where they can prepare their lessons under the supervision of special teachers. In the evening, at six or half-past, they must return home, for, as a rule, we do not admit any boarders into our lycées for girls. The course of secondary education lasts five years, from the age of twelve to seventeen. The children are in the "preparatory classes" connected with the lycée until they are twelve years old; then they are admitted, after an examination, into the second-

* Since this discourse was delivered, a fourth lycée—the Lycée Lamartine—has been founded in Paris.

ary classes. These classes are divided in two periods ; after the end of the first, including three years, the pupils pass an examination which takes place in the lycée. The examining committee comprises teachers of the lycée itself, with teachers of other colleges ; they deliver to the girls a diploma called “*Certificat d'Etudes de Troisième Année.*” This certificate gives them the right to enter into the class of the second period, which consists of two years. Here the instruction is, of course, higher, and the pupils may follow—not completely but in a certain measure—their own tastes and attend a more specially scientific or literary course. At the end of these two years they can gain a diploma, delivered by a committee formed in the same manner as mentioned above ; this diploma, called “*Certificat d'Etudes de Cinquième Année,*” confers on its owner the same rights as the “*Brevet Supérieur*” of the primary education.

We have in many colleges a sixth class, attended generally by girls of eighteen or twenty years, who wish to continue their studies, many of them with the view of becoming teachers.

Such is, very briefly, our organization. A question arises now, far more important :

“What do we teach ?” Before answering this question I must speak of another, closely connected with it : “What is our aim in giving a secondary education to our girls ?” This aim is not to train the girl's mind like a boy's ; not that we do not think her intelligent enough to go through the same course of study, but because we think her destiny being not quite the same in the present life, it is better not to train her quite in the same way. I know that many people—and among them remarkable philosophers—are of a different opinion. Who is right ? It does not behoove me to judge here. All that I can say is this : As long as a nation believes that women ought not to be educated like men, she would be wrong to act otherwise. Now, in France the majority think that women are made—I do not say *only*, but *especially*—for home life ; that they must be before all good wives, real companions to their husbands, ready to enter into his ideas, to interest themselves in his preoccupations and his tastes ; that they must also be mothers in the full meaning of the word, not only bringing children to physical existence, but to moral and intellectual life. To form such women is the main aim of our education, and to succeed it is not thought necessary to give them a thorough knowledge of sciences ; to cram them, as boys too often are, with things required only for examinations and soon after forgotten. But it is necessary to develop their minds and to give them, according to an expression of Molière that we like to quote on the subject, “*Des clartés de tout*”—that is to say, some knowledge of everything—and also a sound moral training. It is in this spirit that our programmes have been formed. To give a full account of them would be certainly useless ; it is sufficient to say that they embrace letters and science, French and general history, with a special study of the history of civ-

ilization, French and general geography, grammar, literature, ethics, psychology, law, modern languages, sometimes, but not always, the elements of Latin, mathematics, geometry, natural history, physics, chemistry, etc., and drawing, singing, sewing, and gymnastics.

Without dwelling on each of these subjects, I must say, however, a word about some of them. The teaching of letters is in such a way as to develop and enlarge the minds of the girls, to stimulate their thought and form their judgment. With these views, the old methods of teaching have been put aside in our lycées. The teaching of history, for instance, is no more the study of chronology of kings, the enumeration of battles and dates, but the study of the great events of the life of nations, with their causes, their effects, and the lessons they give. The study of geography is no more the memorizing of a dry list of mountains, rivers, towns, etc., but, being connected with the study of the soil, climate, products, scenery, and character of the inhabitants, it has become a living and interesting science, which calls less to memory than to reasoning and imagination. The same spirit has transformed the teaching of grammar. Instead of requiring from the pupils, as formerly, a lot of exercises on conjugation, parsing, and diagramming—without quite neglecting them, for they are useful in a way, we try to teach language chiefly by reading of classics, explanation of the most beautiful pages of prose or poetry, and lessons of historical grammar; that is to say, the history of our language and of its transformation through ages. They have also to translate some works of old French, as the “*Chanson de Roland*,” “*La Conquête de Constantinople*,” by Villehardouin, “*Les Mémoires de Joinville*,” etc.

This naturally leads me to the teaching of literature. We attach a great importance to it, not only because of all studies this has the greatest influence for development of the mind, but also because the best way to learn how to write is to learn to appreciate and love the works of the great writers.

Literature is taught even in the primary classes, but is studied more thoroughly in the secondary classes, when the girls are about twelve years old. Then they are given a general idea of our literary history; they read sketches and full works of the best authors, as “*Télémaque*,” by Fénelon; the Fables of La Fontaine; “*Esther*,” “*Iphigénie*,” “*Les Plaideurs*,” of Racine, etc. In the third year they attend lectures on French literature from its origin until the present day, read some of its *chefs-d'œuvre*, deliver short lessons or commentaries on the principal authors that they study, and write compositions on literary subjects. They are also given a general outline of ancient literature. In the following period, from fifteen to seventeen years, they study again, but more thoroughly, French, Greek, and Latin literature; also German or English, according to the modern language that they learn. So their literary training is almost complete. It must be well understood that the teacher does not try to make

them remember the names of all the authors and of their works, and to cram them with formula on each ; but by his lectures, his explanations of texts, his counsels for their readings, he tries to awake their taste and their reasonings, sure that he develops more their minds when he makes them feel the beauty of a description of Homer, Milton, or Chateaubriand than if he taught them many details about these authors.

Far more important than the teaching of literature is the teaching of morals. In a way, it can be said that morals are taught in all the classes. Have not all good lessons, either of history or literature, a moral influence ? But besides this general teaching we have a special one. We give it in the third and fourth years, when the girls are about fifteen or sixteen years old. In the third we teach practical morals—I mean duties of man toward God, himself, his family, his brethren, his country, etc.. In the fourth we teach theoretical morals. We give an outline of the great systems of ethics—systems based either on sympathy or on the research of pleasure or of utility—and we discuss them. This teaching is entirely separated from religion, our lycées being quite independent from the church. We are often asked : “How can you teach ethics without religion ? You cannot separate them.” I will not enter here into so oft-discussed a subject. I will say only that, according to my own experience, as well as that of others, it is possible to teach ethics without special religious dogmas. “But what is the basis of your morals ?” ask some people. It is the great ideas upon which all religions are founded—God, duty, spirituality and immortality of the soul. In developing these ideas we carefully stop just at the point where our teaching would become sectarian. Given in this way, I dare to say that our moral teaching is religious ; however, it never hurts any peculiar feelings or any peculiar creed of the girls, and has really proved attractive to them. So it is with psychology, which is said to be so hard to teach to boys. Are the girls more interested in it because they are more fond of analysis and self-examination ? It is possible ; but whatever the cause may be, they feel a great interest for this science. Though we do not go very deeply into it, we teach them the essential difference between mental and physiological phenomena, and some general notions about the processes of will, feeling, thought, reasoning, etc., always trying to draw practical advice for their own development and conduct, and for the training of children that most of them will have to educate some day.

I cannot leave the subject of letters without adding a word on the teaching of law and of modern languages. The teaching of law takes place in the last year, one hour a week for six months. Sometimes it is given by a special teacher—a lawyer.* The aim of this teaching is not to leave women

* In all the lycées of Paris it is given by Mlle. Jeanne Chauvin, the only woman in France who has taken the grade of “Docteur en Droit.”

ignorant of all business questions; to make them understand the meaning of a contract, a sale, etc., and to enable them to manage their own property, if needed.

Modern languages are taught sometimes in the preparatory classes, and always in the secondary classes; there, during five years the girls have three hours a week of German, English, or both; and in some parts of France, of Spanish or Italian. The pupils are accustomed not only to read and write, but also to speak; the lessons are never delivered in French, and, as a rule, French talking is strictly forbidden. Very often the teachers ask the pupils to speak German or English during the time of recreation; some of the girls do it willingly, and, after five years of this training, they speak English or German fairly well.

Of our teaching of sciences much could be said, and ought, perhaps; but, feeling not sufficiently entitled to speak about it, I will remark only that our aim is to make the girls acquainted with the great principles of abstract and concrete sciences, and to give them, especially in mathematics, natural history, physics, and chemistry, the amount of knowledge useful for a general development of mind and for practical life.

I must conclude with the regret of saying nothing of drawing, which is taught three hours a week, always from the casts; of the teaching of sewing and cutting, which enables the girls to make their own dresses if they choose; of the teaching of singing and gymnastics. But I have already said too much. I will conclude these remarks about our secondary education by saying that, when a girl leaves our colleges after the completion of her studies, her mind is alive to all the great ideas which can interest a human being; and, if she wishes to pass special examinations, her general training is such that she easily gets the special knowledge required. You must not think, however, that we consider our lycées as perfect; far from it. They have many defects that we know and try to amend. Among the many reasons which attracted us here this is even one of the strongest. We know that you have done for the education of women more than any nation in the world; we think that we have much to learn from you. One of our writers, M. de Varigny, after having studied America, said that the American woman was the woman of the future, and would some day educate her European sisters. This day seems to have come now; and certainly, when we return to our own country, after all we have heard in the World's Fair Educational Congress, all we have seen of American schools and of American society, we shall be more able to see and correct the imperfections of our girls' education, and we shall understand better what is the ideal type of woman.

DISCUSSION.

M. BUISSON, of France: I had not any idea of speaking on any question connected with the secondary education system. I was very happy to hear the paper which has just been read by Mlle. Dugard. It has been a great advantage to send representatives to the World's Congresses, especially on this question of woman's education. We are surely learning a great deal here, and surely our attendance will not be fruitless. I would like to say a word on the question of Latin and Greek in the secondary education of boys. I heard an American lady who advocated very much the adoption of the modern Greek in the teaching of that language. I am quite in favor of adopting it, and try myself to conform to it, even now. I have found great pleasure in hearing Greek gentlemen talk of ancient Greek ideas in their own language, and I think we ought to adopt that in the schools.

DR. MACKENZIE: I am very glad to hear from Mlle. Dugard the statement that some things in the French schools are taught in the hours of leisure. I try to give the boys a great deal to do in their leisure time, and so steal a very valuable march. This thesis as to the study of drawing, modeling, painting, and the like, suggests to me a very much easier use which can be made of the leisure of the schoolboys and school-girls. Some of our children would be amused at thinking of learning such a language as English in the leisure time, but I am sure a great deal can be done in the leisure hours. Many a half hour can be used for drawing or modeling that would otherwise be absolutely lost; and the modern schoolmaster or schoolmistress will show his or her skill by arranging the work so as to save those half hours from the waste time of the pupil. How that is to be done must be left to the individual school and its individual circumstances. But I am very glad we can thus very considerably enlarge the work-time of the pupil. One of the unsolved problems in our work is how to secure more intelligent occupation of the rational thinking period of the day. I don't mean by that, adding more serious work to the pupil's schedule; but I mean a friendly, fatherly, schoolmasterly occupation of time that is now not controlled by teaching. I have no special suggestion to make on this subject. There are people here who are specialists in this line of work; but I can, from my own point of view, speak very earnestly, and very positively, of seeking to get time for art studies by some such device as the paper has suggested, as used in France.

WILL S. MONROE, of Leland Stanford Jr. University: The delightful paper which the lady from France has read to us I certainly have enjoyed. If there is one lesson we can learn from these congresses, it is the extreme and delightful modesty of our friends from across the water. There are a few things in which the sex line must be drawn. I believe the note of warning which the lady sounds in her paper. It seems to me, in this matter of coeducation, we have not stopped to study certain scientific problems which nature has determined long before for us; and we must take the word of warning to ourselves and investigate the problems.

THE PROFESSIONAL TRAINING OF TEACHERS FOR SECONDARY SCHOOLS.*

BY MISS E. P. HUGHES, PRINCIPAL OF THE CAMBRIDGE TRAINING
COLLEGE FOR TEACHERS, AT CAMBRIDGE, ENGLAND.

I WISH I could assume that, because two of the eleven addresses on the programme for to-night deal with the training of secondary teachers, the American educational world is fully convinced, first, that the training of secondary teachers is necessary, and, second, that the question is one of special importance. Optimist though I am, when I see that apparently

* This paper was read at the General Congress, but inasmuch as its theme relates to secondary education, it has been placed with the papers of that congress.

the public mind is more interested in kindergarten and primary education than in secondary, and when I remember how few of our university graduate teachers have had any training except that which experience gives them, I cannot make this assumption.

Practically, at present our secondary teachers in America and in England consist of classes of graduate and non-graduate teachers. Taking the former class, what equipment must a good teacher possess that it is unwarrantable to expect from the new graduate? First, a fairly intimate knowledge of child-nature, based on study and actual contact with children. This, it is needless to say, is not included in a university course. Second, a considerable knowledge of the results of the experience of other teachers. We need not begin as if we had no predecessors and must learn everything from experience. Third, a clear idea of the object of education and a high ideal of the work of the educator. Fourth, a certain amount of skill and power in educating, which can only be gained experimentally. Our university course does not give this equipment. If a graduate is to become a good teacher, he must either, laboring slowly, gain it himself at the expense of the children, or gain it at a professional college, where I maintain it can be done quickly, with no damage to the children. If the graduate is not properly equipped, the non-graduate is deficient in additional directions. His knowledge and mental development are not on such a high level, which ought to cut him off from certain spheres of education—he has not enjoyed the education of college life.

I would suggest that we really require at present two kinds of secondary training colleges; one for graduates, giving a short course for one year, and a second for non-graduates, giving a rather longer course of professional training, and also supplying the advantages of a college life. In certain particulars I think that all colleges would differ. I have only time to refer to a few points in connection with a college for graduates.

It seems unnecessary to emphasize the point that such a college should give only professional training. I have never heard it suggested that it should give post-graduate instruction in non-professional subjects.

It seems also unnecessary to emphasize the desirability that such a college should be in intimate connection with some of our best universities. I should suggest that it should have a double connection: on the one hand with universities from which the students have passed, and on the other hand with practical teachers in the thick of teaching-life towards which students are passing.

The profession of psychology could contribute to such a college some of the latest discoveries in that science, and the practical teacher could contribute psychological problems and difficulties, and solve problems.

We have started a plan in Cambridge which seems likely to succeed. In addition to students learning to teach, we have something like Fellows,

teachers of considerable experience, who come to us for a short time, give us the benefit of their experience, help to keep us in touch with practical details, and in turn learn, themselves, of the newest thoughts and practices in education.

During the last seven years I have studied the plans of training colleges in England and in several other countries, and I have always felt that where we fail most is in the means we employ to enable the students to get practical skill in teaching and governing. We have been experimenting in Cambridge quite freely and have been obliged to experiment. Our conditions have been very special, and as our plans have been transplanted to other colleges, I venture to refer to some of them.

I am strongly opposed to any system of training which is purely theoretical. In order to learn how to teach, you must teach, as well as do several other things, besides learning some theory. I cannot enumerate some of our plans without emphasizing for a moment what appears to me to be the fundamental idea of teaching. If it is anything, it should be individual and original. If I give a good lesson, it must have enough of originality in it, so that no one else could have given it in the same way. We must all find out by experiment the best way for us to teach or to govern. I believe that imitation is more fatal in teaching than in anything else. There are, of course, fundamental principles which all good teachers follow; but the applications of these principles are innumerable. To attempt to copy a good teacher is fatal; the conditions are not the same.

I do feel very strongly that the most important of all lessons to be taught young teachers is, *Never imitate*. Now, I find that young teachers are exceedingly apt to imitate, and one has to be on the alert to insist that they shall be individual; that each student must find out for herself her own way of teaching. "Then what is the use of a training college?" it may be asked. Largely to foster individuality of teaching, to develop it in every possible way, and especially to arrange the conditions, so that the teacher shall, as quickly as possible, find out her own way of teaching and governing, without any damage to the children. In consequence of holding this view of teaching, I object strongly to model lessons and to model schools. I believe that when an experienced teacher hears a good lesson she learns much from it, but largely because she will not be inclined blindly to copy. There is a time when it is of the greatest importance to hear good teaching, but I do not think it comes early in the course.

As far as we have reached at present in Cambridge, we maintain the following four stages in the practical work:

First Stage.—The students begin their observation of children in school and out of school. We have organized a series of children's parties in order to provide for the latter. The observations for the schools are of two kinds; first, observation of individual children; second, observation of the whole class. The students are advised not to listen to the teacher, but to

sit in front of the class and watch the children ; not to add to the knowledge of child-nature, but to accustom students to observe children. During this stage I arrange that the students shall come in contact with some of our fine specimens of English teachers, not to hear them teach, but to talk with them and catch their spirit. No model lessons, but a quiet talk with a great teacher is about all, I think, we want.

Second Stage.—In the second stage the students continue to observe, and, in addition, have teaching exercises. The students now begin to teach, and each one begins where she is likely to find it easiest, as regards subject, class of schools, age of pupils, etc., and under the easiest conditions that we can arrange. Everything is done to make these first lessons a success, and during this stage we aim chiefly at enabling the student to get and keep control over a class under easy conditions—to succeed, in fact. As soon as she does succeed, something of the inspiring stimulus of success catches hold of the teacher's spirit ; she passes to the *third stage*.

In the third stage no further observation of children is demanded, but it goes on, and many are the keen discussions among the students with reference to some of the children that we teach. The student having now begun to succeed, we give her teaching under as varied conditions as possible, and her teaching and governing power is developed. In many schools she also has the opportunity of sometimes hearing lessons, especially by fellow-students, towards whom she is naturally critical, and by no means inclined to copy them.

In the *fourth stage* the teacher specializes in a direction.

First, she teaches as far as possible under those conditions under which she will teach when she leaves college.

Second, she knows by this time in what directions she will best succeed, and will consequently to that end determine the kind of teaching that will best help her to develop power in those directions.

Observation of classes and observation of schools are now carried on, and the student can listen with impunity and with advantage to lessons from experienced teachers, because there is no longer any danger that she will make the fatal mistake of attempting to copy any one. At this point the student has acquired considerable teaching skill, and an individual way of teaching, and has learned to adjust herself to many conditions. She has learned to look critically at her own teaching, and to gain from her own experience and from the teaching of others ; in other words, she is now capable of continuing her own training, and that is all we aim at.

I will venture to plead for one moment with teachers of all classes, from the presidents of colleges to the youngest teachers in the kindergarten. I would plead that every teacher is concerned in the satisfactory professional preparation of our graduate teachers. I believe in an aristocracy as a factor in rapid progress ; and by an aristocracy I mean the class who have privileges that at present cannot be enjoyed by all. All species of educa-

tion are connected. The kindergarten lays the foundation of school education, and, if it be well laid, a good structure can be built on it, which otherwise would have been impossible. Again, if the kindergarten has laid a good foundation, naturally the kindergarten teacher ought to be very much concerned as regards the structures erected on it. But over and above this intimate connection there is a special relation between the best equipped teachers and all others.

In England reforms speed more rapidly down the educational line than up it. Because the training was first given to our elementary teachers, it has been difficult to pass that reform to better educated teachers. It would have been better had the reform been in an opposite direction. Any reform that can be effected in our secondary teachers will pass quickly to our grammar, primary, and kindergarten teachers. It is worth while to spend much money on secondary education, which ought to be in many ways a model to primary education. I sympathize very strongly with the democratic tendencies of the age. But I fear that in matters educational we shall be in danger of thinking only of primary education as the education of many, and of secondary education as an education of a few, thereby giving primary education an undue importance. For the sake of all, many and few, it is of importance that our secondary education shall be excellent, and it seems most desirable that we should at once demand from our secondary teachers considerably stronger professional knowledge, with professional interests and stronger professional skill, than from other teachers. "To whom much has been given, of him much shall be required." At present normal colleges are not suitable for our best educated teachers. Other colleges must be provided. Our secondary teachers, with their better education, must come well to the front.

I have suggested that individuality should be one of the watchwords of our training colleges. Let me suggest another—freedom; freedom for the teacher of colleges and freedom for the students. No set methods, molds, ruts, and grooves, and the hackneyed phases that have become threadbare. Let us have new ways and new ideas, connected with old ones, and where there are growth and rapid results we must have freedom. Freedom and individuality—excellent watchwords!

DISCUSSION.

Thesis: "Should algebra or geometry come first in the course of study of secondary schools?"

W. N. HALLMANN, Superintendent of Schools, Laporte, Ind.: It will be impossible for me to give a decisive answer on the subject which has been intrusted to me for the sake of opening the discussion. The only thing I can do, to settle you in giving your own opinions, is to state the basis on which it seems to me the question should be solved and discussed. Of course the question is largely influenced by the aim of the secondary

school in which these two subjects, algebra and geometry, are to be taught. If the aim of the school is to prepare for the college, then it seems to me that the college may, to a large extent, assume the responsibility of securing the organic union between these two subjects with the student, and of giving him full and practical control for life conduct of both these subjects. But if the aim of the secondary school, as is usually the case in our public high-schools, is to use the studies of algebra and geometry for what they are worth in securing a rounded education; and when the secondary school does itself assume the responsibility, as it does in these high-schools, of dismissing the student with this organic union among the subjects well established, and with fairly good control of the connections with the subjects of general life conduct, then the question becomes a different one. I have placed myself rather upon the latter of these standpoints; and it has seemed to me of greater importance that we should examine this question with reference to the aim which affects the public at large. I think it is time that in this subject, as well as in regard to many others, the secondary public schools should abandon the practice of giving subjects in isolation to children, simply for their own sake. They should strive to give more of its subjects in organic connection, one having necessarily a bearing upon the other.

Now I would say the elementary school has to furnish, first of all, the conditions of apperceptional development at the hands of well-regulated experience. In the second place, it must enable the child to make orderly arrangement of all this experience in an approximately conventional and approximately scientific grouping. His mind must be set in the direction of order. The business of the secondary school, I should say, is to give him the experiences and sciences of the race; to place him squarely and firmly, conscientiously and intelligently upon the basis of the past, and upon the basis of achievements already attained. Giving to the pupil that which the race possessed in conventional, scientific attainment, and with reference to life conduct, seems to me has to be the predominant task, almost specific task, of the secondary public high-school. The tertiary phase of education should then afford to the student an opportunity, on the basis of this historic and scientific grasp of knowledge, for independent research.

With such a scheme of education no phase of it would be fragmentary. Wherever the scholar leaves the school, and leaves the scheme, he leaves it well rounded with reference to his stage of development. Does he leave the school at the elementary stage, he goes out with his mind and his habits clearly set toward an appreciation and love of the historical stage. Does he leave it at the historical stage, he leaves with his mind fully set toward the point of independent research, and in such a way that he can be helped to self-culture. Yet, again, if he leaves the elementary school, and has no opportunity to do schoolwork in the secondary school, the attitude of his mind is in that direction, and he will seek of his own accord to supply that which he has not obtained.

What interests us to-day is to find what would be the natural place of algebra and geometry in such a scheme. The highest phases of life conduct are certainly self-expression, self-expression in benevolence. I say everything that is done must grow out of self-expression in benevolence. That which stimulates self-expression in the historic law of the race comes from literature and art, in its highest sense—technical arts as well as representative arts. History is an account of the development of the feelings of kinship among races.

The knowledge of physics and chemistry is a closed book until it is opened by mathematical studies; until we can view it in the light of mathematics, of quantity and number. The study of numbers is the route, and it furnishes the key for all else. The study of geometry and the study of form will become clear to us only in the study of the rules of quantity. Of course algebra is a high development of the quantitative mathematics. Algebra is not a study of principles. It is a study of the laws and the functions of the laws. It is through algebra, or through the study of the functions of number, that we are enabled to appreciate the marvels of mathematics. And these facts can be appreciated only at the hand of algebraic equation. Every form, every line, every surface has its equation, and quantity reveals it. It is through equation that we come to the soul of the form. If we have superficial geometry, which fills that external relation and only the external phases, then possibly we might not need this algebraic form. But to get at the soul of it, and that which can never be changed by any consideration whatever, it must be reached through algebraic formula. In every stage, form study must rest upon quantity study; and, in a general way, geometry must work up on some corresponding phase of algebra, using this term in its very highest sense.

We sometimes see the mechanical way of drawing a circle by making a six-sided form, and then an octagon, and a thirty-two-sided form; and then we have some resemblance to a circle; but the life of a circle is not there. The circle grows out from

the center, under pressure, and it develops in the direction of the diameter, and we will stick to that point. In the circle there is always a central force. I would then say that in the elementary school the child must learn to analyze these forms and show the relation of these things to the creation of art. Then, at a subsequent stage, perhaps in the so-called grammar period, the child may well learn, as he learns the general laws of arithmetic, each form connected between special arithmetic and algebra. He may learn constructive geometry, a geometry in which he learns to discover certain inceptual laws; and which, on the other hand, teaches him to make up in definite, accurate, exact ways, with the help of an instrument, if you choose, certain forms in which he may learn to draw the planes that are conceivable to him. If he then comes to the secondary school, it seems to me, this question of which shall we take first, algebra or geometry, will almost solve itself. *We will have to take them together.* If we take geometry we must have quantitative knowledge.

Let us take always geometric study in that form in which it is open to us by the algebra which the child possesses. Whether or not the Euclidian geometry would answer that purpose I do not know. It seems to me it is a logical study rather than mathematical. It is conceivable that a student may go through all the books of Euclid without going to form. There is a phase which I have found that makes the Euclidian geometry a particularly unfortunate form for the child to use. For instance, in drawing I have the children in the elementary departments draw the life of the plants, and the life of the animal, thus telling me what they see; and they give me a living representation of the animal.

I leave the question as open as it was before, simply because I cannot solve it. I have attempted to place before you certain considerations which should guide us in this problem, that for a long time must remain a problem for us all.

AMY RAYSON, of New York: I have had some experience in both methods of education, both in the United States and England. In the United States we always take, so far as I have observed it, algebra for two years and geometry for one. In England, where for some nine or ten years I have been engaged in preparing pupils for the universities, we study both together. In my own experience I am inclined to the idea that that is probably the most thorough plan, because it gives a longer time for the mathematical ideas to enter the pupil's mind. To get a due amount of theory distinctly it seems to me the time must be allowed. In a meeting in New York, about three months ago, after a paper by Professor Stafford was read, a great many of the mathematical teachers agreed that the preparation given to the pupils was not sufficient. The correction for this was not that more subjects should be studied, but that a more thorough course should be taken. I think there should be a longer time. I would suggest three years. You might begin algebra before geometry. Take algebra first for the half year, or a whole year, and then begin geometry, and carry on the algebra. What makes me incline to this opinion is that children's minds move so very slowly. But this would give them, taking the two together, more time for the ideas of both to get into their heads. As Emerson says, "Knowledge comes, but wisdom lingers."

PROFESSOR H. H. SPAYD, Principal of Schools, Minersville, Pa.: I believe in the unification of the studies in the schools of our country. Call it by whatever name you please. I have repeatedly asked teachers of geometry in the smaller towns in Pennsylvania whether their pupils comprehended what they were studying, or whether they simply memorized. Many of the teachers confessed to me, professionally, that a great deal of it was memory work. The pupils did not see the life and soul of that which they were studying. They saw merely the form, and they scarcely saw the form. They committed the demonstrations. I was pleased to hear from both speakers the idea of inventional geometry. I hope the day will come when we shall have unification on this subject; when we shall draw from nature, and geometry will come hand in hand with other studies.

I have noticed again and again that the drawing we taught in our public schools was entirely ignored when the boys went to college. Now, I hope some mathematician will take up this subject and give us a little book on the line of Spencer and Hill. I am waiting for that book. I am also waiting for a book on algebra that will more fully cover the subject and begin a little lower down. I think the day will come when we shall be compelled, not only in mathematics but in all our studies, to see them as a grand whole, and not ten or fifteen, in the school machinery. It is a sad confession that many of our pupils leave our schools who have been taught so much and know so little. I speak from sad experience—how much I was taught and how little I know!

EDWARD G. HOWE, of Chicago : I have come here to learn and not to speak. But there is one thought that has come to me since these programmes were announced, and that is, as Professor Hailmann has said, we must consider what has gone before and what is to come after. The first thing the child is taught is arithmetic. He gets overwhelming numbers ; he finds how difficult they are to handle, and he wants some shorter method to handle those great numbers. It seems to me that algebra should precede geometry. Still I know so well, and was very glad to hear Herbert Spencer's book mentioned, that inventional method in geometry can be given very early. How much it should precede algebra I don't know. But let us not give these studies until we have brought our children where the study shall have a use.

THE CHAIRMAN : I will say, in my own school inventional geometry has been repeatedly taught before taking algebra. I think we should all be glad to know if there is any one here who has ever attempted to teach logical—that is, Euclidian—geometry before taking up the algebra ; it would be a matter of considerable interest to us all. I have never heard of it in this country.

W. H. BARTHOLOMEW, of Louisville, Ky. : I have a certain conception in my own mind, as I understand it, of where there is a strong line of demarcation between the secondary school and the grammar school. In other words, there is not anything in the secondary school that ought to be in the grammar school. The grammar school has its function, and the secondary school has its function. The grammar school is to prepare for the secondary school. Now, with this in view, I am decidedly of the opinion, though I say that very cautiously, that there must be a certain preparation in the elementary schools, and this must be decided in some way or other before the student enters upon the work of the secondary school. Now, this question arises as this discussion has been mapped out for us : Which ought to precede the other ? We have been experimenting in our school somewhat along this line, and we have reached about this conclusion : that what is known as elementary work—that part which lies very directly with the study of arithmetic—should follow that first in order. And then, following that, comes plane geometry, and then the higher forms of algebra ; and, following that, analytical forms of geometry. I know the former plan was to take algebra for two years, and then geometry. But this failed to satisfy ; and with the experience we had last year, we find it is more satisfactory to carry these studies along together.

W. B. POYNTER, of Shelbyville, Ky. : I hope the gentleman who opened this discussion will not misunderstand me when I say I didn't understand anything he said. I get at questions from the practical side entirely, and then at the theories afterward. I liked him. But as to which subject should be taught first in the schools, I want to say from my own experience I have adhered to the old plan of letting algebra follow arithmetic—two years for algebra, and one for geometry. Never having tried any other, I could not say that is the better way. But my judgment is entirely on that side. After algebra, naturally following where arithmetic leaves off, and reviewing the principles of arithmetic, you are gradually developing the mind of the pupil. That is what we are after. All we want to do is to get pupils to think ; then have algebra come in between arithmetic and geometry, giving the mind a little more strength when it comes to geometry, the great logical study of the preparatory school.

DR. HAILMANN : You will permit me, perhaps, to say an additional word with reference to a view of the subject which the gentleman who has just spoken takes. Of course, in the view he takes, I presume he is right. In the view I have taken of that subject, having for geometry an entirely different aim—in that view he wouldn't be right.

PROFESSOR WILLIAM E. STORY, of Clark University, Worcester, Mass. : I should like to emphasize the importance of beginning algebra as early as possible. Algebra is not a subject of itself ; it is arithmetic, and should be taken up as a part of arithmetic, as soon as the child knows enough about the fundamental principle of numbers to understand what algebraic symbols mean. Where it is taken up in the course of arithmetic, with the same problems, it could be treated by the so-called arithmetical algebraical process.

JOHN B. PATRICK, Superintendent of Patrick Military Institute, Anderson, S. C. : *Mr. President and Fellow-Teachers*—In my earlier days I taught a school where the curriculum was regulated by State authorities. There it was a rule to complete arithmetic ; then algebra was taken and completed, and then geometry was taken and completed.

Later in life I began to manage a school for myself, and I do not follow that rule. When the boy is learning elementary arithmetic, and has taken up the higher forms of percentage, he begins to get into matters that he does not comprehend; then if we give him arithmetical algebra—that is, dealing with numbers in a different form—and lead him on to understand equations in the second degree, it may be well to let him discontinue the study of algebra and take up plane geometry. And when he has completed that, let him recur to algebra, and take it up with the higher form of geometry. My experience has not been in favor of alternating these studies.

HIGH-SCHOOL FOR GIRLS IN ENGLAND.

BY MARY GURNEY AND ROSE KINGSLEY, OF ENGLAND.

[READ BY MISS ZIMMERN, OF THE HIGH-SCHOOL AT TUNBRIDGE WELLS, ENGLAND.]

“KNOWLEDGE is no more a fountain sealed.” These words are the motto of the Girls’ Public Day School Company; and to understand their full import we must glance at the history of a revolution which has taken place in England in the last twenty years.

The low condition of education for girls of the upper and middle classes twenty-three years ago had long been known to persons who had studied the subject. So serious did it seem that at last the English government took up the question, and by the report of the Schools Inquiry Commission, in 1870, revealed the full extent of the existing evils to the public. Among these evils, to quote from the report, we find “Want of thoroughness and foundation; want of system; slovenliness and showy superficiality; inattention to rudiments; undue time given to accomplishments, and these not taught intelligently, or in any scientific manner; want of organization.”

A serious indictment, truly. A remedy for this state of things was needed, and needed at once.

But here government help ceased. Unlike the United States and Germany, the English government does not assume any responsibility over the education of children, except those attending the elementary schools. All public schools, whether for boys or girls, have been the result of private effort or of endowment. The work of reform in the education of our girls had therefore to be done, like so much other English work, by individual energy.

After the report of the commissioners was published, Mrs. William Gray determined to inaugurate this reform. And, as a first step, she formed, with a little band of men and women equally in earnest with herself, the “National Union for Improving the Education of Women of All Classes,” shortly known as the “Women’s Educational Union.”

Among the objects which this union had in view, we find two specially mentioned. In Clause 2: “To promote the establishment of good and cheap day-schools for all classes above those attending the elementary

schools, with boarding-houses in connection with them, when necessary for pupils from a distance." And again, in Clause 3 : "To raise the social status of female teachers by encouraging women to make teaching a profession, and to qualify themselves for it by a sound and liberal education, and by thorough training in the art of teaching ; also to secure a test of the efficiency of teachers by examinations of recognized authority, and subsequent registration."

We propose in this paper to show how far these objects have been attained ; how far England has succeeded in raising the education of its girls.

The idea of such day-schools as those mentioned in Clause 2 did not originate with the National Union. The large proprietary school called Cheltenham College, also "Queen's College," London, already existed ; also the well-known North London Collegiate School, established in 1850, as a private enterprise, by Miss Frances M. Buss, and afterward turned by her into a public endowed school under trustees. This last was a model ready to hand ; an example which showed that it was not only possible and even profitable to maintain such schools at fees which were then considered absurdly low, but to obtain educational results which proved the excellence of the system of teaching.

The central committee of the National Union extended this system by the foundation, in 1871, of the Girls' Public Day School Company. The management was vested in a council consisting of men and women interested in education. The necessary capital was subscribed in shares of a limited liability company, and the first of the company's schools was opened in Chelsea, in 1880.

At the present time the company has thirty-five schools, containing altogether seven thousand one hundred and forty-three pupils ; twelve schools are in the London district, and the remainder are distributed over England. It employs (besides its thirty-five head mistresses) five hundred and fifty-eight staff mistresses, and one hundred and fifty-one teachers of extra subjects.

In 1892 it spent £72,431 in teachers' salaries, and £1,325 in scholarships and prizes.

It has also started a Provident Fund for the mistresses in its employ, which was said at a conference of the Teachers' Guild to approach as "nearly as possible to what might be called an ideal scheme." Into this the company paid £535 in 1892, in augmentation of subscriptions. And as a practical instance in the same year of the usefulness of this fund, two teachers, who ceased to teach for domestic reasons, were able to draw out together £825, saved in less than eleven years.

The success of the first schools of the company showed that they supplied a want in the country. Local enterprise in various parts of England began to start similar schools, or existing establishments were

remodelled on the same system. In 1883 the Church Schools' Company was started by persons who wished for more distinctive church teaching. It has now twenty-five schools, with two thousand one hundred and eighty girls. High-schools on the model of the company's schools have been opened in India, Japan, New Zealand, and most of the Australian capitals, while nearly every large town in England has its high-school for girls. And although these schools vary infinitely in constitution, in management, in rate of payment, etc., their principle is the same—low fees, efficient teachers, thorough, systematic work.

So far as to numerical success. That is uncontested. The important point to consider is, What has been the effect of the high-school system on the moral, physical, and intellectual welfare of English girls?

For this it will be necessary to examine the system of teaching, the class of teachers, and the effect on the girls taught.

Perhaps the most remarkable part of the higher education of English girls at the present time is that all prophecies with regard to the movement have failed. At the outset a storm of adverse criticism arose. For instance, among the many defects brought into prominence by the commission of 1870 was the fact that arithmetic was an almost unknown subject. The opponents of the movement assured us that girls' minds were so constituted that it was impossible for them ever to become accurate arithmeticians, and that mathematics were out of the question.

Mathematics may now be considered the most popular and successful subject in the large public schools for girls which lead the education of the country. And in the report to the council of the Girls' Public Day School Company, by the Oxford and Cambridge Examination Board in 1887, the examiner says of arithmetic: "I may now say that I was very much astonished at the enormous improvement in the arithmetic of girls which has taken place in the last ten years. Their arithmetic is now as far in advance of the boys as to style and accuracy, I do not say as to power, as it was then behind."

In literature, again—also in the board report of 1887—"the examiner finds it hard to write, without apparent exaggeration, of the very high opinion he formed of the general excellence of the literature work of the schools. At least four schools sent up work superior to anything of its kind which the examiner has ever seen before, except occasionally in the university examination for adults, while quite a dozen schools followed close upon the excellence of these four, and in the opinion of some may have equalled them."

We see, therefore, that as soon as the opportunity was given of direct and exact study, girls have eagerly grasped it, and have quickly worked up to the standard of the large public boys' schools of England. They have been enabled to do this by the gradual removal of the barriers between the education of boys and girls.

In 1871 the "Oxford" and "Cambridge" local were the only examinations open to girls as well as boys, and were the only means of testing their proficiency and of establishing a proper standard. Then followed the "higher locals," and a long, uphill fight, which led to the opening of the university degree examinations to women, London leading the way in 1878; Cambridge in 1881. In 1882 some of the examinations at Oxford were opened to women; since then further concessions have been made from time to time, and now Oxford and Cambridge are in almost exactly the same position as regards their women students, except that Oxford has not yet required residence as a condition of taking the examination, although this matter, too, is now under consideration. The actual degree (*i.e.*, the right to add the letters to their names) is still withheld at Oxford and Cambridge, though granted at London.

In addition to the opening of degree examinations, the universities, and especially the University of Cambridge, have established special examinations for teachers, both men and women, in the art of teaching. And in preparation for this examination (so usual in other countries) special women's colleges have been opened in London, Cambridge, and in Wales. These colleges have proved very valuable in preparing high-school mistresses, and many ladies spend a year in them after leaving other colleges at Cambridge, Oxford, or London.

Most of the schools of the Girls' Public Day School Company, and many of the best local high-schools in England, are now examined by the Oxford and Cambridge Schools Examination Board, one of the only examining bodies in England undertaking to examine schools on their own work—being, therefore, a real test of the year's work—while the standard is undoubtedly the highest known for the examination of schools, and is accepted as such by Rugby, Harrow, and most of the great public schools for boys.

The council of the Girls' Public Day School Company never tied their schools down to pass any *outside* examination. And only such are passed as are recommended by the head mistresses, especially those which facilitate preparation for university training. For this end head mistresses have prepared pupils for the London matriculation, the Cambridge senior and higher local, and the Oxford women's first examination. But at the present-time all these examinations—with exception of the London matriculation—are usually dispensed with, and the higher certificate granted by the joint board of Oxford and Cambridge is accepted in place. This has many special advantages. The work required is very thorough; it may extend over two years, and it harmonizes with, and indeed forms a part of, the school examination by the board already alluded to, and adopted in the regular system of the Girls' Public Day School Company.

The advance in the standard of girls' education is shown by the fact that the majority of girls from high-schools who go up to Oxford or

Cambridge have already passed examinations which "excuse" them from the preliminary examinations imposed on all members of the universities who are proceeding to the ordinary degree or the degree in honors.

Ten years ago it was the exception for the women students at Cambridge to complete the three parts of the "previous" or "Little Go" examination before the end of their second or third term of residence. Now the majority beginning residence are either "excused" the three parts, or take them easily at the beginning or end of their first term.

While our girls thus distinguish themselves by thorough and systematic work in those branches of education which until twenty-three years ago were considered almost exclusively the province of their brothers, the same system of thoroughness has had equally happy results in the subjects which were even then allotted to be suitable to women.

Drawing and music have made an astonishing advance. The study of drawing in the schools of the company is now full of life, under Mr. T. R. Ablett, whose system—remarkable among other points for his insistence on memory drawing, cultivating thereby intelligent observation as well as mere mechanical accuracy—has been widely adopted in England with the happiest results. In his report on the company's schools for 1892, he says: "I am glad to be able to report a distinct improvement in the higher divisions. The memory drawing improves every year. The drawing of plants and casts reached a higher level of artistic merit than in previous years. The great improvement in the drawings from the head is a most encouraging sign."

Some of the drawings sent out to Chicago by our schools will serve to illustrate these remarks.

In music the revolution in the last twenty years is even more remarkable. Dances and other light and worthless music have given place to works of the greatest masters past and present, executed sometimes by highly trained string bands; while almost every school has its choral or musical society. Mr. John Farmer, of the well-known Harrow Music School, is examiner and general musical director to the company's schools. And those who had the privilege of hearing a concert given under his leadership, by a selected choir from the company's London and suburban high-schools, at Grosvenor House last year, will not soon forget the real musical treat they then enjoyed.

Even games have not been neglected. When the first schools of the company were opened, school play was almost unknown. Now there is probably no high-school without its tennis club or fives court; and tennis and fives matches between schools are frequent in summer, some involving a railway journey. This systematized play, with its friendly rivalry, has an undoubted effect on the girls' character. For the powers of organization, the self-control, the "give and take," which are such happy characteristics of the English public-school boy, and are fostered by his life in

the playing fields, were too often conspicuous by their absence in the said boy's sisters.

The system of teaching, briefly stated, is this :

The school hours are from 9 or 9.15 A.M. to 1 or 1.30 P.M., with one or two short breaks of fifteen minutes for play and for physical exercises. There is no afternoon school ; but girls may return for an hour and a half or two hours in the afternoon, to prepare their lessons under the supervision of a mistress. Saturday is whole holiday.

The extra lessons, outside the regular curriculum—advanced drawing, music, dancing—are given in the afternoon. And in some schools a voluntary afternoon class for plain needlework, on the admirable system of the “London Institute for the Advancement of Plain Needlework,” has been started among the elder schools. In the lower forms this is one of the regular morning subjects.

The hours for preparation vary according to the ages and classes of the girls. And a home paper is given, to be signed by the parent each week, on which the pupil is bound to put down the exact time she has devoted to each subject. This, if carefully and honestly adhered to, proves a guarantee against any tendency to overwork.

The teaching is carried on in separate classrooms, properly warmed and ventilated. The classes, in the opinion of the most competent authorities, should not exceed twenty to thirty girls. Each pupil has a separate desk, of one of the many improved “Swedish desk” patterns; and these are placed about two feet apart.

We hope to see the day when every school (many have them now) will have its laboratory, its museum, and its botanic garden, as well as its gymnasium.

On the absolute necessity of the physical exercises now taught in our schools it is impossible to insist too strongly. If girls are to do good mental work, their bodies must be thoroughly and wisely exercised and developed. And the trained experts who teach these exercises are able not only to do so without danger of overstraining the delicate organs of a girl's body, but in the case of a weak or crooked back, or a failure of powers in any limb, they are competent to give remedial exercises, or carry out the directions of a doctor with complete success. These exercises should always be done in a suitable dress, without stays, tight waists, or tight sleeves. And the gymnastic costume now in use in the company's and other schools is the perfection of comfort. It is warm and light, and makes a pretty and useful school dress.

Whether regular gymnasium work is desirable for growing girls, is a question on which very grave doubt has been thrown.

But the musical drill is wholly good, not only developing muscles and giving strength to every limb, but teaching girls to move with ease and grace, and training them in quickness and accuracy of eye, ear, and hand,

as all the exercises are done in time and to music. There are few more charming sights than a couple of hundred girls, in the great hall—gay with plants and flowers and casts of fine statues—of one of our large schools, going through their ball and wand and light wooden dumb-bell or club exercises, with absolute precision.

The moral effect of the high-school system is no less marked than its intellectual success.

Its central principle is to combine the advantages of home life with the healthy stimulus of class teaching. During the most important years of a girl's life, when her body and her character alike are growing, and need ceaseless care and guidance, it is essential that she should receive much of that care and guidance from the natural guardian, her mother; while at the same time she is anxiously guarded and watched by her school-teachers, and her intelligence receives a thorough and healthful training in common with a number of children of her own age.

We have personally known many a girl who at home with her governess is bored into naughtiness and idleness by the dullness of solitary lessons, the monotony of the same voice and same face hour after hour. She goes to a high-school, and seems transformed. Her mind is stimulated and occupied by the bright, interesting teaching; by the constant change of teachers from hour to hour; by the kind yet very firm discipline, which makes punishments almost unknown in our schools; while the high standard of honor, the strong *esprit de corps* of a good high-school make a child feel that she is not only bringing disgrace on herself but on the whole class if she gets into trouble.

That this is not mere fancy is shown by the verdict of some of our most experienced head mistresses, who tell us that each year they are more and more impressed by the goodness, diligence, and tractability of their girls.

Certainly the characteristic that strikes us most, after a considerable acquaintance with high-school girls, both in and out of school, is their exceeding happiness. On this point such an authority as Professor Max Müller insisted with particular emphasis, when he opened the Leamington High School in 1884. Speaking of his experience with children of his own at the Oxford High School, he said: "Going to school became a real happiness; a work, which before had often seemed tedious, became a real pleasure."

Further, the effect of high-schools is, we venture to maintain, in spite of all that has been said to the contrary, beneficial to the bodily as well as to the mental and moral health of the girls. The danger of overwork—a danger it is impossible to exaggerate—occurs almost exclusively among girls who are sent late to a high-school. A girl of fifteen or sixteen often finds that she has to begin by unlearning much that she has learned badly; that she has to give valuable time to getting rid of want of system, slovenly habits of work. She takes a place far below her contemporary

because she is often ignorant of the very rudiments of a thorough education. Intelligent and ambitious, she tries to make up by undue exertion for previous neglect. Her mind has not been trained by long habit to steady, methodical work. Everything is new to her, even the form in which her work has to be put on paper. She sits up at night, unknown to her teachers. When an examination comes which the children who have been at schools six or eight years take as an everyday affair, she gets anxious, worried, flustered; cannot eat; will not play or take exercise for fear of losing precious time; breaks down; and the high-school system is blamed.

Very close and constant observation for many years of more than one high-school has convinced us that if children are sent quite young, they take to the system like ducklings to water. Hence the great value of the kindergartens and preparatory classes, which now form a very successful feature in most of our best schools to which they are attached. Insensibly the little creatures assimilate habits of neatness, method, industry, which are of infinite service to them in after life. The delightful object lesson in the first form, for which a bright young mistress has been off to the great manufacturing town, and brought back steel pens, or glass, or cotton, in all stages of their manufacture; the natural history lesson, with a live kitten, or guinea-pig, or hen, or jackdaw, brought by its proud possessor and kept in school all the morning; the botany lesson, for which the teacher has ransacked every flower shop within reach to find illustrations, when the small girls make their little drawings of simple, cleft, and dentate leaves, and are told to bring a living specimen next time to show they understand what they have learned—such lessons give the little opening minds an appetite for learning, without undue strain. The regular hours and occupations are found—so the parents tell us—to keep the children in usually good health. They are early accustomed to kindly authority, to intelligent teaching, to pleasant faces succeeding each other every hour; and grow up in an atmosphere of cheerful, earnest, pleasant work. And that curse of modern days, hysteria, is almost unknown among high-school girls. They are interested, they are satisfied. Therefore they are well and happy.

We now come to the most important factors in the success of our high-schools—the teachers.

The mere existence of such a class of women as the teachers in our high-schools is one of the most notable results of that great and peaceful revolution, which has been going on so quietly in England, and which we venture to think has shaken the old condition of things to its very foundations.

When the first high-schools were opened, the difficulty of finding highly trained women, willing to work and capable of working on the lines laid down for them, was considerable. The Girls' Public Day School Com-

pany was exceedingly fortunate in the choice of its first head mistresses. The demand created the supply. Women of culture and power saw what a great future opened before them, if England responded to the appeal. Twenty years ago, the notion that a well-born and well-bred girl should give up a comfortable home and take to a profession, was highly repugnant to most parents and relations. And the idea that a girl who need not work for her bread should take to the profession of teaching, seemed to the last degree impossible. Well might the National Union speak of "raising the social status of female teachers."

There were brilliant exceptions to the general rule—women who by force of character, nobility of aims, and remarkable talents had overridden all prejudice, whose schools were centers of life, whose private pupils were among the most cultivated and intelligent of their generation. But in the great majority of cases a woman usually taught because she could do nothing else; not from conviction, not from enthusiasm. The "art of teaching" was unknown to her. The noblest profession a woman can take up, that of developing the minds and characters of our future women, brought a loss of caste to the greater part of those who adopted it.

Happily, some few parents were wise enough to see that even pleasant lives, if idle ones, were utterly unsatisfying to girls touched by the eager modern spirit, and that the emptiness of such lives was fruitful of morbid views of life and religion, of discontent, of ill-health, of hysteria in all its insidious and fatal forms. They saw that what their daughters needed was occupation. They determined to brave the prejudice of generations, and allow them to teach. All honor to such pioneers! Their path was not a smooth one. But parents and children have had their reward. The parents find their girls are no less devoted daughters, no less refined women, because they have an honorable and satisfying calling. And the public at large is beginning to see that it is not only possible for a high-school mistress to keep her position in the best society in the land, but to make for herself a very fine career. A really first-rate high-school is a center of cultivation to its town. Its mistresses are welcome guests, not only in the homes of their pupils, but in all houses where intelligence and refinement are valued.

One of the most delightful features of high-school life is the relation between the girls and mistresses, who are at the same time teachers and friends. They throw themselves into the girls' lives with a devotion and enthusiasm which is beyond all praise. Graduates of one or other university, as many of them are—often old high-school girls themselves—they know what high-school girls need. Their interest in their pupils extends far beyond the walls of the classroom.

It is they who help the girls to organize the school games; they who, on the Saturday holiday, take their class far beyond the limits of the town, to get primroses, or for field botany, or a tea-party in the woods.

It is they who set on foot the museum ; who help to edit the school magazine ; who encourage the "Old Girls' Clubs," which keep the girls who have left in touch with their school and help them to carry on intellectual work at home. It is they who start the school "Kyrle Society," for beautifying the classrooms with flowers and pictures ; they who spend hours for weeks beforehand over rehearsals for the Christmas play or tableaux. It is they who initiate the vast amount of charitable work now done in our high-schools out of school hours ; for they know how important it is to our children's characters to be made aware of the sorrow, suffering, and poverty about them.

We hope that enough has been said here to show that although the goal has not been and never can be reached, yet some of the high hopes of the Women's Educational Union in 1871 have been fulfilled.

DISCUSSION.

Thesis : "In cases where a choice should be made, which should come first, Latin or some modern language, in the course of study of secondary schools ?"

DR. C. W. PEARSON, of Beloit College, Beloit, Wis. : There are two or three considerations that seem to lie at the very basis of this subject. I am unhappy when I find a young man presented for examination to enter college who has insufficient instruction in Latin, although his German may entitle him to a place in the class. I have a belief that the form of speech which we get in the study of languages is the most valuable part. In the Latin language we have a system of forms which are most complete—of cases and indexes. The child learns these forms, and they become fixed criteria for him. He expresses a certain thing for that particular form. If he learns modern language first, it may be an excellent thing for him afterwards, in conversation and in pronunciation, but he has not had the drill in form that he gets by a thorough knowledge of the Latin language.

I have visited parts of Europe, and have been in families where German and French are spoken equally well, and I have not found in such families that they have thereby acquired that particular drill that our pupils get by a thorough study of the Latin language, in the secondary school. There is a great thing in that it is a part of the drill of the mind. It causes the mind to fix upon a certain form, just as it is valuable for the child to learn to set type ; he becomes acquainted with the forms of the words. So with the Latin language. He becomes acquainted with the form of the particular word in a particular case ; and he learns that there are cases, and agreements, and correspondences and forces. That is a great thing. And for this reason I should say that the Latin language, according to the proposition set forth, should be chosen first.

There is one consideration, however, in which the modern language would be very valuable. I believe it is generally understood that in the beginning of any modern language, very much of what we know to-day as the modern method should be the speech rather than the form. The pupils are taught also so much of the form in the course of grammar that they can begin to read, and they learn modern language by reading it and observing its form. A great many students take a modern language simply as an opening to the literature. To my mind it seems clear that Latin should come first, and then French naturally follows after the Latin. It is a Latin tongue, and it seems to me that French should naturally follow Latin. I might sum up by saying this, that the place of any study in the secondary course should not be fixed wholly for the information that is given. If you put in German before the Latin it will be possible for it to be taught scientifically. But if it be taught simply that so many words be learned and so much pronounced, it will not be so valuable. Latin can hardly be taught that way. It is taught by the form which is valuable to the student.

WHICH SHOULD COME FIRST, LATIN, OR SOME MODERN LANGUAGE?

BY W. WILBERFORCE SMITH, ENGLEWOOD, N. J.

"In cases where a choice should be made, which should come first, Latin or some modern language, in the course of study of secondary schools?"

THE question is one of priority only. It assumes that both Latin and some modern language are to be taught, and by this token it appears that we are to discuss the interests of that class of pupils who, more than others, enlist our glad and unsparing service, because their study aims not at immediate, material ends, but at that decent store of knowledge, discipline of mind, and elevation of sentiment, that make and mark scholarly men. In these pupils the schoolmaster finds grandest opportunity.

Whether Latin or some modern language should come first, will be best determined if we remember that both are parts of a comprehensive scheme of study in which their place depends largely upon their natural relations to other parts.

The education of these pupils will proceed mainly by means of mathematics, natural science, and language. In the department of language English is of paramount importance. It is to be studied for its own sake; Latin and French, German and Greek, partly for their own sake, partly for their contribution to a knowledge of English.

The right point of view is had by putting the question third in a series. *First*, What is the best course of study in the secondary school, when highest culture is the aim? *Second*, What part of this course belongs to language study? *Third*, what place in the plan for language study shall be given to Latin and some modern language other than English?

Let us have the elements of our problem, the pupil and the subjects, correctly before us.

The pupil has a lively faculty for observing and remembering what interests him; has an eager appetite for things new, is a good worker when interested and conscious of making gains, but is decidedly averse to work which he doesn't see use in. He is already a proficient student of language by the "natural method," and has a knowledge of English quite adequate to his needs thus far. He can understand English, speak it, read it, write it, conforming in the main to conventional spelling, more readily and correctly than the school will enable him ever to speak any other tongue. Moreover, he will continue to learn English by the natural method, whether the school make note of this or not.

And what of language? In it lies, consciously and unconsciously written, almost all we know of the men and deeds of history. It is almost

our sole means of intercourse with our fellow-men. Without it the laws of evolution would work backward, and by involution we should become anthropoids. Language fixes our modes of thought and sets limits to thought. Its domain stretches across indeterminable boundaries into the realms of logic, psychology, ethics, and religion. Its phenomena are fruitful of curious truths and stimulating speculations, and are most intimately related to life. Therefore we shall not be content to know our scholar can use language well for practical purposes; we shall make this instrument an object of his study until he knows something of its nature and history, until he feels wonder and love for the thing by which, intellectually, he lives.

At what points the writer thinks Latin and a modern language should be introduced into the work of the secondary school, will appear if he is permitted to outline a course of language study, whose operation he has had occasion to watch and admire. It was reached empirically, by continued selection of methods yielding best results, but is believed to rest on sound pedagogical principles reinforced by important practical considerations. It is a six years' course, of which the first two years precede the work commonly recognized as belonging to the secondary school.

The work of these two years differs from the usual exercises in reading and spelling, in that there is a well-defined purpose and a continuous effort on the part of the teacher to make it a study in literature, and to awaken lively interest on the part of the class in the subject matter of what they read. What he finds in books the average child grasps less perfectly than what he hears of or sees, because a considerable portion of his mental energy is spent in the labor of recognizing words and gathering in sentences. He has not yet skill to place interpretive emphasis, pause, and accent as he passes over new ground, and his rate of reading is so much slower than his ability to take in the same matter by ear, that reading is dull business. All boys like to have books read to them; few will read for themselves when they can find anything else to do.

The all-important thing is to develop interest, and this is done by dwelling less than is usual with classes at the age of ten or twelve upon the language itself, in order to dwell more than is usual upon what it contains. The books read are from standard authors who have a style and subject comprehensible by the pupils. The movement of the class is rapid, skipping freely and securing much volunteer reading of omitted portions. But there is a great deal of discussion, mostly by the class, of the scenes depicted, characters presented, actions and events narrated; of the writer, and the plot and ethics of the story. It is the importance attached to this talk, the systematic nature of it, the time allowed to it, in the effort to make things in books interesting and real to the juveniles, that entitles what they call lessons in reading and spelling to be designated as work in literature.

After two years of this, and in what is usually the first year of the secondary school, the English class, while still reading under criticism as to matters elocutionary, makes this advance, that there is less of comment upon the contents of their book than upon its language, attention being given mainly to rhetorical qualities. Of course this is rhetoric for the boy; elementary, practical, found in what he reads and writes.

Technical terms are introduced when their use is convenient, but no attempt whatever is made to present all the chapters of a treatise on rhetoric, or observe their due proportions. Boys of thirteen naturally like poetry better than prose, impassioned oratory better than speech less rich in rhetorical features, and with a little encouragement and teaching they become bold and original and thoughtful critics. They have an ear for the melody of a line or the correctness of a rhyme, as they have an ear for music. They can appreciate the force and beauty of a simile or metaphor, are responsive to pathos and humor, are sensitive to differences of style, as a child is sensitive to the parent's tone and manner. They learn to pronounce upon questions of propriety, of clearness and force, of order in narration and argumentation. They will grasp the idea of paragraphing, of periodic and of loose sentence construction. Boys are, indeed, excessively fond of brilliant rhetoric, and are liable to be misled by florid writing; and yet they learn to detect a line masquerading as poetry, which, stripped of its rhyme and restored to its natural order, is found to be sheer commonplace. The language of poetry and passion is simple. The Bible, Shakespeare, Longfellow, and Charles Dudley Warner will furnish the right sort of material. There is no other part of the school course which affords such opportunity for use of the Socratic method. The enthusiasm that can be aroused, and the high order of critical work that can be done, would astonish one who has not seen rhetoric taught at this stage and in this way. The work satisfies the teacher that he is calling into healthy and effective activity powers just ready for use, and that he is establishing friendship between his pupils and the masters of English literature.

In the next year the pupils pass from the dynamics to the statics of language; to formal grammar, with a text-book. They have learned to enjoy language in action, bringing them knowledge and entertainment, glowing with warmth and power of life. Now they are to take portions of its anatomy for dissection; are to classify and describe the parts and their relations.

But as part of their preparation for study of English grammar, the class for a year or more studied Latin.

Now, the introduction of Latin a year or more before English grammar is regularly studied, or any other modern language attempted, is our answer to the question proposed to us, and calls for explanation and defense.

Let me say in passing that the fifth year of the course described employs a text-book in rhetoric ; the sixth year attempts the study of half a dozen great writers, from whom a notion of the history of our literature may be gained ; also that the pupil is not wholly ignorant of formal grammar when he begins to use a text-book, because it has been convenient to use some of its terms and rules in the work of the earlier years already described, and in the attention which all his teachers give the pupil's English, remembering that he studies English under them all, after the "natural method."

But, to explain why Latin comes first. Grammar is a science treating of phenomena and laws having their basis in the nature of things and the nature of mind. The grammars of different languages, at least of those so nearly related as the Indo-European, exhibit substantial identity, attended by much difference in detail. In all of them appear a classification of words into certain parts of speech, distinctions of number, case, tense, person, mode, with more or less inflection of words to correspond, the several concords, and other syntactical relations.

It is important that when the pupil is of age to deal with these matters they be presented to him by the language which will give him the clearest and most sufficient notions of general grammar. Latin is chosen for the purpose, because, as compared with other languages the pupil will study, it is complete, is logical in its development of forms, consistent in observance of its own laws, and is indexed throughout by a full inflection. An army of words wherein all ranks are in appropriate uniform, and all bodies are under suitable banners, shows its organization more plainly than does an army of words with banners and uniforms mostly lost. The effort in learning declensions and paradigms is well repaid by the fact that in Latin a noun looks like a noun, and a verb looks like a verb ; that subjects and objects are distinguishable not merely by their function, but also by their endings ; that, generally, where a distinction is to be made a difference in form appears.

Latin has other advantages, as compared with English, for the purpose of teaching grammar. It has higher disciplinary value. No school-book has so confused a notion of its own mission, and more regularly fails of usefulness, than the English grammar. It is usually given pupils whose previous study has not been wisely preparatory to it. They haven't the kind of interest and knowledge of language that lead one to care for grammatical details. They don't believe in its value ; their common sense telling them that the effect upon their habits of speech will be insignificant in view of the time consumed, and of other purposes in grammar they have scarcely any apprehension. A few lessons on "shall and will," formation of plurals, use of relative pronouns, and one or two other topics might include everything in the book which is put to practical use.

English is unsuitable for disciplinary purposes because the child knows

too much about it. So much is obvious, familiar fact, that the things he is to learn are inconspicuous to him. As in review lessons, he rehearses nine-tenths that he knows, to get one-tenth that he doesn't know. That sort of study is not invigorating.

The Latin has highest disciplinary value at this stage. It requires memory and carefulness. The pupil knows, and the teacher knows, as accurately as in spelling or arithmetic, whether the lesson is learned or not. The sum of knowledge of the subject which the pupil should have at any time is an exact quantity. Diligence is encouraged by manifest advance. The pupil gives close attention to forms and rules because he finds them useful; without them he cannot make Latin yield up its meaning. All this means accuracy in work.

It is a further advantage, in giving the foundational knowledge of general grammar, that we have English at hand for use in illustration and comparison.

Indeed, more light may be thrown upon English, the origin of its idioms and derivation of its words, by its use in teaching Latin, than in teaching English directly. When later, with riper mind, the pupil returns to examine the grammarless tongue, he will be prepared to detect in this composite language the remnants of earlier inflectional systems, and to consider in the light of their history and the usage of another people, those forms of speech over which the writers of school grammars forever dispute.

But why not use a modern language to teach general grammar?

Because, although French and German exhibit the subject more fully than English, they are, at nearly every point mentioned, inferior to Latin for this purpose. But the early introduction of a modern language is advocated on other grounds than those adduced in support of an early beginning in Latin, and chiefly by those persons who contend for what they call a conversational or natural method of teaching.

We must object to their claim; first, because the end they aim at—a conversational command of the language—is impracticable. The conditions of success are impossible in school. To accomplish anything worth while in this direction, the pupil should, by foreign residence, be placed where the language he is studying is the only one he hears. Conversation in the classroom serves only to enliven the work.

Conversational command of the foreign tongues, while an admirable accomplishment for those whose tastes, abilities, and circumstances enable them to acquire it readily, has for Americans no practical value. Except among newly arrived immigrants, they rarely find an occasion when English will not serve their purpose best.

If it were possible to so isolate an American boy from English surroundings, and give him such use of foreign tongues that at length he should speak several, we should thereby make him the peer of a continental

hotel porter or the cicerone of a Cook's tourist party, not an educated man. Glibness, in one tongue or many, may coexist with intellectual indigence.

As to the method, it is by no means clear that the method of the child is the method natural for an adult. The man who has made \$10,000 does not make the second \$10,000 in the same way.

The child has no other way to acquire than by imitation, and by units. But he who knows one language is a hundred per cent. better off than the infant, as regards learning another.

Part of the new language needs only to be recognized as being part also of his own ; and in adding what is foreign he can profit, as a child cannot, by generalizations, and find in his study a far higher sort of mental exercise.

The object of modern language study in our schools is mental discipline and reflex benefit to English, and such knowledge of German and French as all cultured people desire, satisfying the scholarly temper that would not willingly be ignorant of the speech, the history, or the institutions of those great nations. It is desirable and feasible to give such facility in reading these languages as will serve the needs of men who find the work of their professional brethren in France and Germany only in monographs and periodicals never translated ; also, to furnish those who may desire to perfect their knowledge of these tongues with a good foundation for their study. Cultured Americans find such use for a reading knowledge of French and German, that their school attainments in this direction less often than most other studies sink into utter desuetude.

All our purposes will be served if Latin furnish the basis of grammatical science, and subsequent studies follow the comparative method.

Narrative of the school course exemplifying these ideas stopped at the point where Latin had been taught a year or more, and English, Greek, German, or French might be introduced, because then the question assigned was answered. But the shortening and enriching of the school course that results in the years following are the best justification of the plan.

To read the Greek grammar with a class of beginners, marking one passage to be memorized or referred to, because it contains something peculiar to Greek ; marking the next as already learned, inasmuch as it sets forth a principle familiar in English or Latin, discovers to them the gratifying truth, to which they are entitled, that even in beginning they know considerable Greek, and wonderfully adds to their zest.

To show a class beginning German that, like Latin, it has grammatical gender and inflects its adjectives ; like English, it makes large use of auxiliaries, and relies much upon the order of words to express its meaning, is to employ pupils in a higher sort of thinking than characterizes the usual beginnings in languages.

DISCUSSION.

MR. RAY GREENE HULING : Are we to follow the historical method, and, because the Romans lived before the French, take Latin before the French in our schoolwork ? Or are we to follow the system that is more truly pedagogical, and proceed from the known to the unknown ; that is, from the less difficult to the more difficult ? We have in English practically an uninflected language. The inflections are so slight, we cannot consider them in comparison with French and German. It would seem much more feasible that we should proceed first and fix that excellent basis of English, for which Mr. Smith has so eloquently given us a plea, and then take the modern language first which is the least difficult to those who have this preparation ; and that would seem to me to be French. I would plead a little more strongly than either of these gentlemen, Mr. Pearson and Mr. Smith, have for a conversational element in the modern languages. Now the success of the conversational study depends very much, it seems to me, upon the early approach to these languages. We must take the child while he is in the imitative rather than the logical stage ; we must take him while his vocal organs are plastic.

DR. MACKENZIE, the Chairman : I am not going to make a speech, but I want to felicitate the congress on having had this admirable paper by Mr. Smith. It is one of the very thoughtful papers that have been presented, in my judgment. I am very glad that it is to be included in the public proceedings of this congress, and I think you will find that when you come to read it it will bear rich results. I cannot agree with Mr. Huling. If you will observe this question, you will notice that it is very carefully drawn : *In secondary schools*, where a choice should be made, *which should come first*, Latin, or some modern language ? I do not believe, first and last, that we have anything to do with the speaking or conversational use of the modern languages in the secondary school. And the sooner that heresy is banished from the secondary school the clearer the air will be. It is not only slaying its thousands but its tens of thousands. It is utterly impossible to achieve conversational results in French or German in secondary schools. If you take your boy before the organs of speech are set, as Mr. Collar has said, previous to twelve, and try by all means to get his organs of speech in good working order, he will learn to pronounce the language ; after that he can learn it as well at thirty.

MR. BOLTWOOD, Evanston, Ill. : I have never tried the experiment of giving modern languages first, and then following it by Latin ; but I have tried this experiment, in my course. Pupils were required to take Latin a year, and then they had their option to take German or Latin for three years. I tried Latin at the beginning, and at the end German. At the end of the year enough pupils elected German to take it up the second year. At the end of two years the section that had carried Latin one year was in advance of the section that had taken German three years. I had a very remarkable experience. A boy came to me once, at eighteen, who had spoken German, and only German, until he was nine years old. He was born in Germany, and brought to this country by his parents, who died. An American family brought him up. At eighteen he conceived the idea that he would like to study German ; and I never had a pupil in German who had to work so hard to learn German pronunciation. I am fully satisfied that Latin is the best of all things to secure the study of a language which calls for inflections in any way ; that the order of putting Latin before French is preferable.

MR. POYNTER : I desire to say that the paper presented by Mr. Smith is the method pursued fifty years ago by the most successful teacher of secondary schools I have ever known in my life. So the old and new are meeting here to-day.

MR. BARTHOLOMEW, of Louisville, Ky. : I would like, if we could, in this discussion, to find some way or other that we could all agree upon, so that we might go back to our respective schools and test it, and come back next year and give our experiences in this line.

THE CHAIRMAN : That is what they attempted in the French Exposition ; but I fancy if we attempted it here we should never get back to our schools. Of course we must assume that English is a constant language in all these courses. The question is not between Latin and English ; it is between Latin and one of the common modern languages. I think the hour has arrived for the adjournment of this congress, and I desire to extend, in behalf of Mr. Huling and myself, our very cordial thanks to the members of the congress who have coöperated with us in making the work so suggestive and profitable.

DEPARTMENT

CONGRESS OF ELEMENTARY EDUCATION.

SECRETARY'S REPORT.

FIRST SESSION—WEDNESDAY, JULY 26, 1893.

THE Congress of Elementary Education met in Hall of Washington, of Memorial Art Palace, Chicago. General John Eaton, ex-Commissioner of Education, presided. The Chairman called the congress to order at 9 30 A.M., and delivered the opening address.

The first regular paper of the session was read by Joseph L. Pickard, LL.D., of Iowa City, Iowa. Subject: "Essentials in a Course of Study for Children between the Ages of Six and Fourteen Years."

Superintendent L. H. Jones, of Indianapolis, Ind., read a paper discussing the following topics of the subject: "Should Morals, Language, Number, Geography, History of the Country, Writing, and Drawing be considered the Essentials of the Course of Study for the Eight Years of Elementary Instruction, the Pupils being from Six to Fourteen Years of Age?" The discussion was continued by Dr. B. A. Hinsdale, Professor of Pedagogy in the University of Michigan.

A paper was read by B. Buisson, Delegate from the Ministry of Public Instruction in France, considering "Some Aspects of the Curriculum of Elementary Schools in France."

Professor C. M. Woodward, of Washington University, St. Louis, Mo., read a paper on "What should be the Essential Branches of the Elementary Course of Study to meet the Industrial Needs of the Localities?"

This subject was further considered in a paper by Albert P. Marble, Superintendent of Schools, Worcester, Mass.

The subject was discussed by G. W. Hicks, Inspector of Schools, Jamaica, West Indies, with reference to race characteristics.

SECOND AND THIRD SESSIONS.

These sessions of the Congress of Elementary Education were held under charge of the National Geographic Society.

The proceedings were reported, but not furnished for publication in this volume.

FOURTH SESSION—FRIDAY, JULY 28, 1893.

The Congress of Elementary Education, General John Eaton presiding, assembled at 9.30 A.M., Friday, July 28th.

Superintendent W. A. Mowry, of Salem, Mass., read a paper. Subject: "What Special Work should be undertaken in the Elementary Schools to prepare the Pupils for the Duties of Citizenship?"

Miss Catharine H. Spence, of Adelaide, South Australia, read a paper on "The Value

of Elementary Schools for the Social Virtues and for Training for the Right Exercise of the Duties of Citizens."

Mrs. Mary H. Peabody presented methods of "Teaching History to Children" which were very suggestive.

"School Savings Banks in the United States" was the subject of a paper by J. H. Thiry, of Long Island City, N. Y.; M. Gustave Serrurier, of Havre, France, gave an account of "School Savings Banks in France."

The "Public Educational System of Sweden" was described in a paper by N. G. W. Lagerstedt, Ph.D., of Stockholm, Sweden.

A paper on "Religion in the School" was read by Dr. E. E. White, of Columbus, Ohio. This subject was discussed by Z. Richards, of Washington, D. C., and by George P. Brown, of Bloomington, Ill.

"The Adaptation of Methods of Instruction to Special Conditions of the Child" was practically illustrated by the presence of Helen Keller—both blind and deaf—and her teacher, Miss Sullivan, who showed how her pupil had been taught to read with her fingers from the lips of her teacher, and also how to talk.

Professor Ergraff Kovalevsky, of Russia, read a paper on "Should Rural Schools Introduce Agriculture, Chemistry, Agricultural Botany, or Arboriculture?"

A paper on "Confucius and his Educational Ideas" was read in German by Hidesaburo Eudo, a delegate from the Royal Educational Society of Japan, and translated for publication.

A paper on "The Use of Magic Lanterns in Schools" was read in French by Gustave Serrurier, of Havre, France, and translated for publication.

The paper by James Stormont Small, of Auckland, New Zealand, on "Schools for Neglected Children," was not read before this Congress, but was submitted for publication.

In closing the last session of the Congress of Elementary Education the Chairman said: "We are about to close our exercises, and I have no doubt that I express the sentiment of those present and of those who have been present at our different sessions, when I thank the speakers, and thank the officers who have provided this feast for us, and thank the secretaries and various assistants; and now it remains for me to thank all who have in any way made efficient and interesting these gatherings, and to declare this department of the International Congress adjourned."

LIST OF PERSONS ACCEPTING THE OFFICE OF HONORARY VICE-PRESIDENT OF THE DEPARTMENT CONGRESS OF ELEMENTARY EDUCATION.

AFRICA.

Rev. D. D. Fraser, Inspector of Schools, Cape Town, Cape of Good Hope.

ARGENTINE REPUBLIC.

Dr. Juan M. de Vedia, Inspector of Primary Instruction, Buenos Ayres.

AUSTRALASIA.

James C. Dickenson, Inspector of Schools, Auckland, New Zealand.

William Fidler, M.A., Head Master North Cote Schools, Auckland, New Zealand.

Alfred Jackson, Inspector of Schools, Stawell, Victoria.

E. Johnson, Esq., Under-Secretary Department Public Instruction, Sydney, New South Wales.

William Murray, Inspector of Schools, Taranaki, New Zealand.

Henry Shelton, Inspector of Schools, Ballarat, Victoria.

BELGIUM.

M. T. Luyssen, Inspector-General of Instruction, Bruges.

BERMUDA.

George Simpson, Clerk to the Education Board.

BRAZIL.

Dr. J. B. Silvano, School Inspector, Rio de Janeiro.

Sra. Amelia Fernandes da Costa, Rio de Janeiro.

CANADA.

R. W. Doan, Secretary Ontario Educational Association, Toronto, Ontario.

Rev. J. Somerville, M.A., Owen Sound, Ontario.

ECUADOR.

Señor R. Espinosa, Sub-Director of Public Instruction, Quito.

EGYPT.

M. Douglas Dunlop, Inspector of Public Instruction, Cairo.

FRANCE.

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 M. P. L. Bianconi, Inspector Academy of Saint-Etienne.
 M. Ch. Flamand, Inspector Academy of Belfort.
 M. Fraissenet, Inspector Academy of Versailles.
 M. Robin, *Orphélnat Prévost*, Cempuis, Seine-Oise.
 Mlle. Robin, *Orphélnat Prévost*, Cempuis, Seine-Oise.
 M. Néel. Ruell, Seine-et-Oise.
 M. J. Poirier, Inspector Academy of Lyon.
 M. I. Pouillot, Inspector Academy of Montauban.
 M. A. Thermes, Inspector Academy d'Aix.

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 Herr K. Bast, Teacher, Hamburg.
 Herr Boettcher, Teacher Secondary School, President Provincial Teachers' Association, Posen.
 Herr M. Brodführer, School Councillor, Coburg.
 Herr Wilh. Bülow, Head Master, Bochum, Westphalia.
 Herr G. Cabjolsky, Teacher, Gumbinnen.
 Rittmeister A. von Clausen-Kaas, Dresden.
 Herr W. A. Fett, Teacher and Stenographer, Königsberg, Pr.
 Herr Albert Fricke, Teacher, Braunschweig.
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 Frl. A. Jungk, Principal of Girls' School, Karlsruhe.
 Herr F. Konstmann, Teacher, Flensburg.
 Frl. Ida H. Klockow, Teacher, Berlin.
 Frl. Marie Krause, Directress Higher School and Seminary for Girls, Königsberg.
 Herr F. Kroeger, Headmaster, Flensburg.
 Frl. Bertha von der Lage, Teacher, and Member Teachers' Association of Buenos Ayres, Berlin.
 Herr Wm. Meyer-Markau, Teacher, Duisburg.
 Frl. M. Paehlmann, Principal Higher School for Girls, Tilsit.
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 Frl. T. Willborn, Principal of Higher School for Girls, Schwerin.

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ELEMENTARY EDUCATION.

THE CHAIRMAN'S OPENING ADDRESS.

BY GEN. JOHN EATON, EX-COMMISSIONER OF EDUCATION.

Ladies and Gentlemen :—In the performance of the duty assigned me at this hour, you will not thank me if by extended remarks I delay the feast of wisdom gathered here from the four quarters of the educational world for your enjoyment. We are to address ourselves to elementary education.

Any department of education is too important to be belittled by comparison. We disparage none, but we must not fail to estimate at its true value that assigned us for our attention. All worthy education appeals to the sublimest considerations. How tremendous the consequence of any formative touch of man's nature, physical, mental, or moral !

All that may be said of education in general, bears upon elementary instruction, including, as it does, that which is imparted in the first eight years of school attendance, or in the ages from six to fourteen. All other divisions of educational work must be limited to a number less than the whole. They may deal with data more profound, complex, and difficult, and lead the student farther into specialties, trades, arts, sciences, or philosophy.

But elementary education, though not occupied with the highest reaches of subjects taught, must direct their beginnings. How manifold are these sources of the profoundest currents of thought encountered in later life ! In the child are all the elements of the future man. Besides, the mind is less self-directed, and more dependent upon the teacher. Here the teacher must not only be master of his subjects, as elsewhere, he must have the power to simplify and adapt them. Moreover, there is no limitation to the number due to elementary instruction less than the total of child life ; it should be for all mankind. Here all must start ; through this door all must enter their specialties of toil of brain or hand. Even the blind, deaf, dumb, and feeble-minded—the exceptional by nature—are not excepted here. There must be adaptations to them. Here all roads are one ; no child is too perfect or too defective to enter. Beyond, the paths are many, and open to choice, and less numbers travel them.

Much is said of the effect of the “start upon the finish.” The marksman must get a “good ready,” or expect to hit wide of the mark. The higher the object, the more distant the star to be reached by the eye,

the more need of accuracy of aim and method. But in education there is error at every step, error by nature, error in the home, community, school. Every grade of teaching is taxed with correction.

However defective nature may be in substantially normal constitutions that survive the age of six, the errors acquired are too numerous and serious for description. Every higher grade of work is charging fault upon its predecessor. So imperfect are methods, that the very process of correction adds defects. Unfortunately, addition of mistakes does not diminish as the youth advances. Sometimes the highest instruction is chained to the worst methods.

Not the power to educate, but the mastery of a subject, has been the prime test of the qualification of the teacher. The abstraction admissible for adult minds has been imposed upon the child when his mental action is most dependent upon the senses and sensibilities, and all things must be brought to him in the most concrete forms. Methods most fit in professional or superior instruction may be fatal in elementary stages. Here we meet, in a special form, the interdependence of all educational work. We are not only forced to see how difficult it is to set each division off by itself, but what care there must be in selection and adaptation.

What subjects are universal? What are special? What subjects and conditions belong to this age of the pupil? How must they be modified to his nature, or race, or order of development, or environment, physical, social, political, or religious?

Every other grade is interested that elementary education should be universal; that its principles and methods should be free from error. Every grade must share in promoting social, religious, and political opinions and actions to assure this result. All, in all grades, must unite against pernicious laws and customs which destroy or pervert childhood, that period of life so dependent upon maturity, and assigned by the Creator to preparation for responsibility, self-direction, and the assumption of the duties of life. More than this, all grades must have intimate acquaintance and sympathy with each other. Often they can aid each other in discovering and making improvements, and thus promote their own and each other's efficiency. Often the resistance to some essential change in one grade may be founded in another. There must be clear and comprehensive vision and wise action. Elementary education, we say, must share in all that is general; must sympathize and must charge itself with the responsibility of enlarging attendance; of promoting its pupils to advanced work as free as may be from defects in ideas, habits, and character.

Again, however powerful in their effects other grades of instruction may be, none save this deals with the nature of man when it is as susceptible to impression as it is during the ages of six to fourteen.

All educational literature accentuates the influence of the impressions

of this period upon all future activities. The tinkling of a bell in the Alpine fastnesses may set in motion the avalanche ; and yet no figure of speech can set forth the sensitiveness of these years, or the tenacity of impressions, and consequently their far-reaching influence. Do men seek to perpetuate their memory in brass and stone ? When all these memorials shall have perished, some words, some truth impressed on youthful minds, shall live immortal. In view of these responsibilities it is not surprising that great reforms in education have been concentrated upon elementary instruction, or that legislation and taxation expend their efforts upon it, or that educational literature and organization are occupied with it.

Teachers' institutes and normal schools are provided for the preparation of elementary teachers. Nor is it surprising that a revival of education in the past should have marked its supremacy by selecting its best teachers for elementary grades. But to gain a deep sense of the import of the work we represent, we need make no comparison with other phases of education.

According to the computations of Dr. Klemm of the United States Bureau of Education, directed by Commissioner Harris, where we all go for statistics of instruction, there are in the educational world to-day one hundred millions receiving the rudiments of knowledge. This responsibility, unmeasured in its vastness and accountability, is represented by this occasion.

But, great as are these numbers, adopting as our standard the elementary school attendance in Germany, or eighteen per cent. of the population, the present attendance should be more than doubled ; it should be advanced from 100,000,000 up to 267,170,000, or by the addition of 167,170,000.

When there is lack of this instruction, there is the absence of what is adequate in all that is special or higher. So benighted is our race, so great is the work before us to be accomplished ! Fortunately for us, our era awakens those interests that previously have been indifferent.

The rudest labor finds greater profit in the skill imparted by intelligence. Trade, commerce, manufacture, and agriculture join themselves to science, and count their increase of profits by the light of learning. All the considerations of religion add their admonitions. Bearing our respective parts in this work, elsewhere and previously we may have had our local or national conferences. We may have marshalled all the history on our different lines. We may have sought by travel or by literature to reach over and gather the ripe fruit of experience from other races or nationalities. But now, these diverse spheres of experience, these varied conditions of current elementary education, bearing their best products from the ages that have past, are here present, by their competent representatives, to speak to us their wisdom from living lips. They will instruct us in what has

been done on other continents and the islands of the sea, and point to the results in actual life as seen in yonder unequalled exhibition of the world's progress. All other attempts at world-wide comparison are for our benefit. For our advantage there is not alone the increased facility for communication between peoples, making more manifest the brotherhood of man, but the characteristics of thought and inquiry in this epoch are also ours. History has always had its lessons for the peoples that would learn. Now treasures that have been buried for centuries are adding their corrections to what has been accepted as the public view. The world in its present vastness is before us as before no preceding generation. Having the advantage of studying all the past, in searching for averages, uniformities, laws, types, we may, in a single survey, bring into view the millions, nay, tens of millions of peoples of the earth, of divers tongues, as the basis of our comparisons and conclusions. Not only have the methods of treating many subjects of thought improved, but even greater advance has been made in the study of man himself. The voice of the ages has been crying to him, "Know thyself." He has sought to obey by studying his own consciousness, the action of his own mental and moral powers. At maturity he has challenged memory to bring back what he thought, felt, and willed in childhood, the processes of his own inner growth, and thus to infer general laws for the guidance of the parent or teacher. He has added what he could from his observation of others, and tried to avail himself of any corrections thus suggested.

On this basis of facts he has set his reason to work to develop rational theories. Thus many a folly has been exploded, many an evil prevented or removed. The instruments of precision needful for the most exact measurement of physical conditions indicative of vital force and action have never before existed. Nor has it been possible, as now, to mass in figures the annual experiences of mankind, to tell what is good and bad in results; or, by vast averages, to discover the connection between intellectual and moral conditions and physical manifestations; to approach the physical signs of persistent criminality or degradation of any kind, and thus to measure the causes which modify them, and impart their conclusions for the direction of education.

Every manifestation from the cradle to the grave may be recorded; the experiences of one may be multiplied into hundreds, thousands, and millions; and all the modifications of heredity, of race, of the conditions of environment, the habitat, food, activities, occupation, taken into account. Thus the field of the purely conjectural is displaced by the known. Superstition gives place to intelligent faith; imagination assists the ideal, but is not allowed to vitiate; we hope for a resultant the best possible type for man. Yes, the voice of the ages has been crying to man, "Know thyself," but never, never before has this been so possible as now. Every mind acts after law. These laws of many individual minds will help us

towards the general laws common to all which the type obeys. Finding these laws, we can be assured of approaching the type.

We are here with our differences of race, characteristics of material, civil, social, and religious environment. Each owes his patriotic duty, but we are all here to educate man, to produce character, to prepare for universal brotherhood. However broad and various our ideas may previously have been, our very assemblage quickens and enlarges them. Towards this our labors are to contribute. If they accomplish this in any degree, each of us will have something of importance to himself and the type which he represents to carry away. Our work will fit into these vast congresses of which we are a part. We shall have reason to acknowledge, as we would here and now, our indebtedness to Hon. W. T. Harris, the Commissioner of the United States Bureau of Education, to-day the most influential man in education in the world. His profound philosophy and practical sagacity have given to these educational congresses their unity and their comprehensiveness. His wisdom has brought the best things; his skill has overcome all difficulties; his patience, all trials and delays. We thank him and all those who have had the wisdom to place these responsibilities in his hands, and to work with him. May our task not come short of the place assigned it.

It remains only for me to remark with pleasure and pardonable pride, that this conference is in a language specially growing in demand; that it is held under a flag that stands for the vanguard of Christian civilization, and on a soil which guarantees the greatest freedom of speech and opinion yet accorded to men. In realizing that freedom, this conference, trusting itself to the sound judgment and good will of those present, is now open.

ESSENTIALS IN A COURSE OF STUDY FOR CHILDREN.

Shall *morals, language, numbers, geography, history of the country, writing, and drawing* be considered essentials in a course of study for children between the ages of six and fourteen years?

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I.

WHAT is the child at six years of age?

Physically.—It is an organism perfect in its proportions. Its several parts are in miniature, and in some important particulars in embryo. It is capable of quick and varied movement, but with little effective force. The years of its life have been devoted to rapid growth with little toughening of fiber. No other period of equal length will witness such ceaseless activity.

Mentally.—The will is assertive, but not under control from within ; hence the motive power is neither steady nor constant. Desire is ever present, and pressing for immediate gratification. Curiosity is keen, and fastens upon that which most attracts through the outer senses. The imagination is vivid, and the greatest dramas are enacted upon the miniature stage. Tragedy is the favorite. Joys are intense, sorrows are keen, but both are evanescent. The names of things innumerable have been stored in the memory ; the value of things themselves is measured by the present gratification they afford. Present perception, which neither recalls the past nor forecasts the future, is all-absorbent. Reflection slumbers but shows signs of awaking.

Morally.—In minor morals, or habits of outer movement, native grace holds its charm. Home freedom has not felt restraint, except where the kindergarten is established.

In major morals, which touch the springs of outer action, *faith* is unwavering in mother or personal friend ; *hope* is bright, but will not bear long deferring ; *charity* is turned inward, though the hand be outstretched. Under neither of these cardinal virtues lies the abstract principle of duty toward God or toward his fellows. Right is what mother approves. The voice of the inward monitor is heard, but straightway forgotten. The sphere of the child's activity, thought, and feeling is very circumscribed. Its center may be expressed in one word—*Now*.

II.

What may be reasonably expected of a youth at fourteen years of age ?

Physically.—Stature nearly complete ; a body well developed ; the critical passage from childhood to youth is effected ; the trend of sex is determined ; the incomprehensible force pertaining to this period assertive and controlling bodily movements ; all functions in healthy action, though not yet at their highest efficiency ; tempering of material well begun, but yet to be perfected by use.

Intellectually.—Perceptions clear and quick, but not always sure ; reflection awake ; with the growth of the reasoning faculties the present is less absorbent ; the past has its lessons and the future its inspiration ; the will is vigorous, but under control ; self-activity is ascendant, and want of experience has induced an undue independence ; premature manhood is the natural result of immaturity ; the ardor of imagination has cooled ; play as a means takes the place of play as an end ; seeing, doing, feeling, become conscious seeing, doing, and feeling ; perception opens the way for apperception. Appetite for continued study is healthy and keen.

Morally.—Upon the lower plane, movements, dress, and address are modeled after those of maturer years.

Upon the upper plane, habits have crystallized into permanence. Principles cherished hold control. The man is seen in the youth.

III.

The eight years under review have been years of foundation laying. The framework of the superstructure is laid out, its form becomes apparent, but its use and its beauty are not yet fully displayed. The changes wrought, as they have been hinted at, are due to nature and to education.

Education in its widest sense is the result of influences springing from the *home*; from *society*, the combination of homes; from the *church*; and from the *school* coöperative with the home and the church.

The school, whether within the precincts of home, or in the church enclosure, or in edifices erected by the state, has the same end in view—the development of power for the production of manhood.

The question before us is concerned with the *essential* means to be employed. Upon these there may not be absolute agreement as to the relative importance of each, or upon the order or extent of their use. All will agree to this statement—that the school curriculum is not an end in itself, but a means whose influence goes beyond the period of school-life into mature manhood. A wise selection of these means must therefore depend upon what is expected in mature life.

Looking forward we shall see that power will be exercised along these lines: man over man, social power; man over matter, industrial power; man over the movements of his fellow-men, his co-laborers, civic power. The first has its root in man's nature; the second, in his necessities; the third, in the requirements of social order in the struggle incident to the relief of his necessities.

These lines of exercise of power must be kept in view through the entire preparatory stage of an education, that there be no loss of energy when the time comes for the practical use of the power in society, in labor, in government.

The field of education Mr. Harris at one time arranged in a series of concentric circles—the smaller requiring the same cultivation as the larger, but necessarily yielding less fruit in quantity, though by no means inferior in quality. I have thought of this figure as most apt in the cultivation of orchards. The inmost circle is the nursery—how apt the term! The successive circles are filled with growing trees, not larger in number, but requiring more space for each. The fruitage of mature years will depend largely upon the care taken in the nursery. Even the process of grafting has its genesis in the nursery. Transplanting is essential, that the tree may be set in new conditions. The question under discussion recognizes the aptness of the figure. The six-year circle is that of the nursery. The fourteen-year circle is that of transplanting, training, pruning, and grafting. The outer circle is filled with sturdy fruit bearers if the inner circles have been properly cultivated.

At the age of six years school life ordinarily begins. At the age of

fourteen in the vast majority of cases it is completed. In many countries it is expected that the boy or girl will enter service at the age of fourteen and begin self-help. It is of the utmost importance, therefore, that the best training shall have been given the child, that he may enter upon the period of self-support as well equipped for effective service as possible.

As already intimated, nature and education will furnish the equipment, and the latter will be the most effective when its service is rendered with due regard to the former. Choice fruits are produced from the native stock by continued cultivation. Plums will be plums still. Improvement in quality will follow close observance of the habits and needs of the tree.

IV.

Let me now recur to the three lines of influence.

For the acquisition of social power the essentials are *character*, which gives the opportunity for its right exercise ; *health of body*, which insures its vigorous exercise ; ability to *understand* thoughts of others, and to express one's own thoughts, which makes the exercise of the power, both in giving and receiving, pleasant and profitable. Essential means are *manners* and *morals*, including the love of labor ; enough of *physiology* to impress upon the child the possibilities of the use and of the abuse of the body ; *language* in all its direct and indirect uses, speaking, singing, writing, and drawing. From the grouted trench to the corner-stone, throughout the entire foundation these should appear. Then, with or without school privileges after the fifteenth year, the desire and ability to cultivate the wider circle will remain a constant factor in self-education.

The physical organism needs *nourishment* which depends upon food and its assimilation ; *exercise* which shall secure a harmonious development of the bodily powers ; *control of appetite*, to which *table talk* as well as *table food* may contribute ; *watch, care*, regarding associations either in persons or in books, the influence of which is far more pervasive than that of personal contact ; *special care* toward the close of the period under review, that there be normal development of bodily functions theretofore dormant.

These suggest knowledge of physiology and hygiene upon the part of the parent and teacher at the outset, and upon the part of the child as his education progresses—physical training after a scientific method—and a knowledge of a proper course to be pursued in emergencies to the end of saving life.

A healthy body, whose every movement brings pleasure, renders moral instruction easy and effective. From a recent editorial in the "Inter-Ocean" is taken this valuable statement: "In the eight years that form the average of public-school life, there is time to lead a child into the graces as well as into the practicalities of life. And it is most important

that the ethics and the æsthetics shall be taught in the public schools, for the children of most families end their education in their fifteenth year."

Character in its original signification—the result of the graver's art—implies cultivated senses, a steady hand, and a noble ideal. Into this combination bodily actions enter. Is it not well to admit instruction in the laws of our physical system as an essential feature in moral instruction?

Morals essential? Absolutely so, without intermission, but without formal intrusion. The entire atmosphere of the schoolroom and of the playground should be redolent with grace and truth. Schoolhouses and their surroundings, and school teachers, should make such an atmosphere certain.

"*Sana mens in corpore sano*," cannot be too often repeated. Bodily powers are available only in absolute contact. The mind knows no limit of its effectiveness if it has at command the most important instrument of influence—that of *language*, either by speech or by written characters. Words alone are barren things; but springing from a mind richly stored with thoughts gathered from, or born of, wide reading, study, and conversation, they will go forth enriching both those who hear and those who utter them. To this end *good literature* must be made the soul of language study.

Expression of thought increases the power of thinking; power is proportionate to the clearness of expression. Familiarity with good literature gives ease and grace to expression, whether the channel of communication be through the ear or the eye. I cannot separate from language study the *art of reading*. *Writing* is as essential as clear articulation. Plain chirography is as important as clear enunciation. The use of the pen, however, is not confined to the structure of words in collocation of letters, but is applicable to presentation of forms of things, and so to the expression of many thoughts through a single form. *Drawing* is as essential as writing, and, as allied to language, it has the advantage of being understood without the intervention of dictionary, glossary, or interpreter, by people of all nationalities. There is a charm in the rhythmic utterance of thought, and in the melodious flow of words, which emphasizes the value of *music* as allied to language. Reading, writing, drawing, and music are such natural vehicles for thought as to proclaim them essentials to a proper course of study in language.

Language, in its various forms of presentation, bears directly upon the social side of life. It must be remembered, as Cowper expresses himself,—

"Talking is not always to converse;
Words learned by rote a parrot may rehearse;
Not more distinct from harmony divine
The constant creaking of a country sign."

Correct forms of speech are lifeless bodies until the spirit of a pure literature is inbreathed. Social life will be enriched from both its æsthetic

and its ethic influences. Labor will be sweetened when the laborer bears into his daily tasks the scholarly spirit.

Were I called upon to express the purpose of *manual training*, I should say familiarity with constructive processes before the pressure of necessity is felt, induces a love of labor for labor's sake. The charm of early accomplishment of something useful and beautiful is not lost when the work is a matter of necessity rather than of choice. To this end the kindergarten is an undisguised blessing, and the working with tools in later years a delight. In the expressive dialect so frequently heard, Uncle Eben says: "You will allers notus dat er man dat hates work is not well enough acquainted wid it to form an opinion."

To write intelligibly or to converse effectively implies acquaintance with subjects which are of general interest, and which bring children into a wider circle. *Geography* properly understood presents for study a compendium of knowledges. Huxley aptly styles "geography the peg upon which all knowledges are hung."

V.

But another line is here intertwined with that of social power. Industrial power finds food in the fields which geography opens. Natural forces, natural products, natural channels for the transfer of products, natural outlets for surplus products—these all are initiatory to the artificial application of natural forces, the artificial water-ways and railways—the artificial outlets for surplus products. Greater facilities for exchange stimulate invention. Invention leads to more minute division of labor, and in the end to the substitution of machines for muscles. So he who would use industrial power must do it through directive exercise. *Geography* and *manual training* are essentials on this line. Here is found place for *mathematics*. Dimensions cannot be ignored; occupied space asserts itself, and we are brought face to face with a category not intelligible except in the use of *numbers*. No one lives by himself alone, but by a series of exchanges, whose relative values are determined by measure, by weight, or by tale.

The exact science of numbers makes exact justice possible. Deferred settlements introduce the element of time with the varied problems of percentage. Accuracy in presentation of form, as in drawing, and nicety of fitting, as in all mechanical arts, involve knowledge of mathematical principles.

Aside from these materialistic views, the mind is best trained to reason in accordance with the formulas of exact science. The eye which sees clearly, the hand which sketches accurately, and the head which makes prompt scientific classification possible, are the results of training in mathematics, in drawing, in elementary science, and in the elements of mechanical industry.

VI.

The foundation of good citizenship should be laid in the years under review. The exercise of civic power, which will conduce to the weal of the State, makes the study of *history* and of *civil government* essential.

VII.

By way of recapitulation :

Eight years of school life are to be considered in relation to the entire life, whether the fifteenth year close school work or be a stage in further progress.

Three lines of power are opened to manhood, and they have their genesis in childhood and their strengthening in youth.

For social power the essentials are *morals*, *language*, and *literature* ; *writing*, *drawing*, and *music* ; a *healthy bodily condition* ; and an elementary knowledge of nature's forces, of nature's products, and of nature's facilities for exchange—*geography*.

For industrial power the essentials are *knowledge of nature* and of her control by artificial agencies ; *drawing*, *mathematics*, and *manual training* ; and, still more important, *morals* and good *literature*.

For civic power the essentials are *history* and *civil government*, with the still widening sphere for *morals* and *pure literature*.

DISCUSSION.

L. H. JONES, Superintendent of Schools, Indianapolis, Ind. : The subject proposed for discussion is. "Should *Morals*, *Language*, *Number*, *Geography*, *History of the Country*, *Writing*, and *Drawing* be considered the essentials of the course of study for the eight years of elementary instruction, the pupils being from six to fourteen years of age?"

I have assumed that this list of branches is intended by the committee to express the minimum possibility ; and that, therefore, the burden of discussion is to be placed on the advisability or necessity of having still other subjects embraced in the curriculum of the elementary school. To this part of the theme then I address myself. In reasoning on a subject so complex as this, one is liable to be confused by the fact that a final conclusion has its major premise in one field of thought, and its minor premise in quite a different one ; while the final adjustment of the major and minor requires the consideration of many subsidiary conditions of each. In the present instance the major premise of the general argument is found in the answer to the question, "What is the true end of elementary education?" and while the minor premise is found in the right analysis of these enumerated studies, considered as instrumentalities toward such end, the subsidiary conditions will appear as one proceeds with his thinking. It is no easy problem to set and define the purpose of elementary education. The question is as old as the race, and yet as new and as fresh as the dawn of each new day. The newness, however, is dependent on the changeable element in life, the new phases of civilization which the race takes on in its progress ;

while its stabler elements belong to the permanent nature of man as human being. The former is the ever-present fact thrust upon our attention by each event of every passing hour, while the latter is found only in epoch-making periods of history. It takes a clear vision to discern in each new phase of human activity the human hope which inspires it, "the increasing purpose" which expresses the higher nature of man. But it is only through this insight that one can be protected from the assumption of evanescent ends in education. One who adopts a mere fad in education is little better in his profession than is the quack in the profession of medicine. It is impossible, then, to make progress on this theme till one has set up an end in education equal in dignity with the nature of the beings whose education is involved.

Abstractly I consider that the end of education is to develop into actual perfection the possibility of each human being, *i. e.*, to develop or bring into actual matured existence the ideal human being.

But since this can be done only through rational processes, and since these rational processes include all the necessary activities of this present life upon the earth, the fitting of one for these subsidiary processes or practical activities is a legitimate end of educational effort. It is in this latter element of the educational idea that formal and so-called practical subjects find their validity. But since this element in the educational idea is so much more readily seen, and is really seen by so many more than ever get the vision of human perfection, it is likewise true that in our elementary education far greater attention has been given purely formal studies, or those which fit for practical life, than to those which tend to develop the human essence into the divine likeness which is its prerogative.

I venture to state the end of education to be, then, the harmonious development in the pupil of the powers belonging to the human being by virtue of his ideal likeness to the divine, and the teaching to him of so much of the arts and sciences, history and literature, as shall fit him to discharge acceptably the duties of life.

At the age of fourteen the child will have accomplished only so much of this as his developing powers allow.

Analyze powers and enumerate practical arts and sciences.

My minor premise is to be found by an examination of the nature of the branches enumerated in the thesis: morals, language, number, geography, history of the country, writing, and drawing. A thorough analysis of each is out of the question in the time allowed me. I therefore examine them by groups, and look only at prominent characteristics.

Of these subjects, then, language, writing, and drawing, considered in themselves, are purely arts, *i. e.*, their end is skill, and the use of this skill, either in the further extension of formal education, or in the ordinary forms of living. Writing, as generally taught in the schools, develops no esthetic sense; language, whether for interpretation of the printed page or for dexterous use of words in composing, has no ennobling ideas in itself; while drawing must reach some of its finer forms to touch anything more than the sensuous side of life. Only when these branches are used in the expression of ideas whose origin is in some other field of thought, do they become so charged in themselves with thought or feeling or motive as to become an individual factor in spiritual development.

Of geography and history it is to be said that in their lowest stages—that of time and place—of event and fact, they are of the same technical character. It is only when geography rises to consider physical forces joined to human motives as accounting in rational way for even the simplest phenomena that this subject takes its place among the branches which develop spirit; and history is dry bones only till motive for action gives meaning to its events. Of the entire list morals is the only one that necessarily finds its subject-matter in spirit-nourishing ideas. Mathematics not treated.

This analysis shows the inherent weakness of this list as a whole, and of each of the list in itself when viewed alone from the formal side. When this weakness is placed beside the ideal of education set up in the early part of this paper the deficiency is painful. It is the deficiency in these branches of those ideas which nourish and thus develop the spirit into its heavenly likeness, and the prevalence in them of the technical, commonplace, temporary ideas, which at best prepare only for prosaic living.

From this analysis we are driven to the conclusion, therefore, that they are inadequate to produce the desired education. They could but fit out the child with the armor and weapons of a giant and leave him a pygmy, unable to wear the one or wield the other. The course must be enriched by ideas which nourish and sustain the spiritual, which induce those mental processes which constitute healthful and strengthening activities for the spirit itself.

We must find these ideas in other fields of thought, since the enumerated list does not contain them. Fortunately, we shall not have far to go. External nature and the humanities will furnish the needed ideas. It is not even necessary to burden our course of study with many new names. It is only necessary to read new meaning into the names already there. Observations, lessons on plants or animals, with reference to their structure, life, habits, and environment, will give ideas, delightfully interesting, elevating, and spiritually strengthening to a six-year-old child. These ideas, reproduced by the teacher on blackboard or chart, or on slips of paper by means of the school printing-press, form material for drill in learning to read, that never palls on the mental appetite, nor gives rise to soul-benumbing automatic repetition of forms without content, interest, or meaning.

And, if the child thus learns to read by associating the letters and words with interesting and instructive ideas, words will, in reality, become the signs of ideas, and so, ever after, the interpretation of the printed page is a soul-inspiring process instead of the perfunctory, automatic process it so frequently becomes when practised from its formal side only. Fairy story, poetry, and charming prose, real literature, containing the ideals, customs, hopes, and achievements of institutional life, should then be used as an exercise ground for the child's spiritual nature, and I am sure little time need be spent on the formal teaching of inflections or gesture in order to make intelligent readers. *Learning to read* should be chiefly done within the first three years of school life; in the remainder, the pupil should *read* and *read much*. In like manner, when the child is taught to compose, first orally and then in writing, and when his penmanship is judged by his original writing, then will he learn to write a free, rapid, and legible hand.

Still again, if the child has his observation directed from the first day of his school life to those unions of physical forces and human motives which make of the earth's surface such a bewilderingly interesting theatre for the institutional life of man, if he has been led to accustom himself to find either in nature or man, or in the combination of both, the reasons which make the earth so dear a home for man, and if even after books, maps, and charts assist him, he is still led to look behind the present effect to the reasonable cause, there is little danger that he will spend his time in bounding the states or locating the capitals of African provinces. When the history of one's country is so taught as to lead one to love it because its institutions are *worthy* and its associations are *sacred*; when, besides its time and place category, history is seen to be the record of a progress towards freedom; when each institution, the state included, is seen to be an instrumentality which the race creates and uses for its own advancement, the spirit will be nourished and strengthened, and something higher than mere prudence will enter into the character of the learner and control his conduct. If the other subjects of the list be interpreted in this larger and more liberal way, and it seems to me they should be taught in this

spirit, I am ready to say that, with one exception, the list of subjects enumerated should constitute the curriculum of the elementary school.

The omission of music from the list, it seems to me, is most unfortunate. There are ethical and esthetic needs in human nature that no other subject meets quite so well; while the uses of music in the development of important social needs is so great as to make its absence from the elementary school nothing less than an educational calamity.

DR. B. A. HINSDALE, Professor of Pedagogy in the University of Michigan, Ann Arbor, said: *Mr. President*—I suppose that there is no difference of opinion on the part of those present that all of the subjects of consideration that are embraced in this thesis should certainly be embraced in an elementary school curriculum. I suppose we are all agreed that there is nothing contained in this thesis that should be struck out. Such differences of opinion as would arise, provided we were to have a careful individual comparison of views, or as might arise, would arise, no doubt, from the question of what branches of instruction should be introduced into the thesis that are not found in it. I am not going to discuss that question broadly, but wish, in the first place, to observe that Superintendent Jones is certainly within the truth when he observes that the answer to it must turn, to a very considerable extent, upon the breadth and the comprehension that we assign to some terms that are here employed. I may illustrate that remark very briefly. By the history of the country, for example, we may understand a collection of facts, more or less fragmentary, more or less isolated, and more or less innutritious.

I fear that this description that I have now given is not an inadequate description of what sometimes passes for instruction in the history of the country in some of the schools of this country. Now, that is one thing; but, on the other hand, I think by instruction in the history of the country we mean not merely the acquirement of a body of facts, but the acquirement of facts that have been wisely and discriminately chosen. If, in addition, we mean the mastery of these facts in accordance with the great associating activities of the mind, if we mean the organization and the interpretation of these facts in such way as to make the history of the country yield up some of the great lessons which that history may be made to convey, then the history of the country becomes quite another thing, and we are all prepared to concede that it is a school, in a certain sense, of political wisdom, a school of patriotism, a school of civic duty and of civic virtue. It is a school of ethics and morality, and I may even say a school of religion in the very largest and in a very proper acceptance of that term.

In the second place, let me refer to the term "language" itself. It must be clear to all of us that the committee that arranged the programme intended that this term should be taken comprehensively, for nothing is said about literature, and nothing is said about reading in the thesis; and undoubtedly we are to understand that these things are included in the term "language"; that is, the art of reading and the literature of the language.

I was gratified, for one, that the Superintendent in his remarks called our attention, rather incidentally, to the fact that there are certain things in this thesis that, properly understood, are rather arts than studies. They are rather arts than studies, if by a study we mean a content study; if by a study we mean something in correspondence to a science, a body of organized knowledge; then manifestly reading, in the sense in which I use the expression, is an art and not a study, properly so-called, in the same sense that geography or science or history or any branch of mathematics is a study. Writing or penmanship is obviously an art. It is not an art of acquirement as reading is, but an art of representation. Either one of these arts brings one in relation with the minds of others; but reading considered as an art brings one into relation with the mind of another, in the sense that he acquires something from him; whereas writing, properly

understood, puts one in possession of an instrument or tool whereby he is able to convey to another his knowledge and feeling and volition. What is true under this category of reading and writing is manifestly just as true of drawing. That is an art and not a study, properly so-called ; certainly not a content study. Not only so, but I will add to that category, if you please, number, because number properly understood is not a science. Manifestly arithmetic, notation, and numeration are arts which we use in the prosecution of studies.

Now, it appears to me that what has been said by way of characterizing these arts, and by way of discriminating them from the studies proper, is not without certain practical advantages. It seems to me if we could induce the educational people of the country, and especially the teachers of the country, to look upon these studies so-called as being arts, and could induce them to handle them as such, there are certain points of advantage which we should gain. I shall illustrate my meaning by reference to the subject of language. We were told, and very properly, that language is an art. I am not unaware of the fact that grammar and philology, under all the various divisions into which we divide language considered as a science, are content studies, and that they are proper sciences ; but that language considered as a medium of thought is palpably an art to be acquired, to be mastered, and to be used for communication in the first place orally, and afterward in written form of one's thought, feeling, and volition.

There has been much discussion in the educational journals of the country as to the study of what we call technically grammar. I take it, for the most part, the distinction to which I have called your attention will enable us to answer the questions upon this subject. Technical grammar is a science. It is not an art. It is not a tool or instrument. I know full well that Lindley Murray, the father of English grammarians, defined English grammar as the art of using the English language. It is nothing of the kind ; and how so great a scholar ever could have conceived it as being such is one of the things that I have not been able to understand. Whatever grammar of any kind may be, it is certainly not the art of using language. One acquires the art of using a language by using it ; one learns to speak by speaking, to write by writing, to talk by talking, as he learns to think by thinking. Of course, there comes a time when the reflective or scientific and grammatical study of language may, in a subordinate sense, be a benefit to one in respect to his handling or mastery of language. What I mean is this : When I came to acquire certain formal rules of grammar, it proved of advantage to me in enabling me to eliminate from my speech certain inaccuracies and solecisms into which I had fallen, through what we call use and want. I never would have learned to speak it, had it not been for use and want. That person who is not allowed to acquire the mastery of language until he shall have learned it in a reflective sense, that is, from the grammatical side, will never acquire it at all, because the acquirement of all arts must come before the scientific or reflective or self-conscious stage of the handling of its topics. That is where the practical use of grammar comes in. The rules and precepts of formal grammar in process of time may become a second nature, but they are never the first. All of this I think confirms and strengthens the proposition that in the first place we are to consider language as an art.

The facts that I have stated explain two things that some people think very curious, which are not curious at all. I have heard men make fine speeches, using good language, who never studied a grammar lesson in their lives. I have known men who could write a fine letter, a good newspaper article, and possibly a good book, who had no knowledge of technical or formal grammar. I have known plenty of people who worked for months, and I might say for years, over technical or formal grammar, who could neither make a good speech, nor write a good letter, nor talk with ordinary decency. What conclusions follow from these two facts ? First, that language, no matter whether oral or written, in the first instance is an art, as we have been told ; and secondly, considered

as a science, it can only be of use to us in a practical field, in a subordinate and secondary degree.

The practical application of all that I have been saying is merely this: That if we could get it into the heads of the educators of the country that language is an art, and that people learn it by way of imitation, and that the reflective study of grammar can only be of advantage in later years, and then only in a secondary and subsidiary sense, we should have made a very considerable stride in the direction of answering the question as to whether we should teach formal or technical grammar or not. My observation is, that those people use good language, conversationally and in writing, who have been brought up in intelligent homes where good language is used, who have been taught to read good books, and who have moved in society where they have been early introduced to a liberal range of ideas, expressed in comely, vigorous, and measurably correct English. That is the beginning of the matter, and there is a lesson in it of practical import for the teachers of the country generally.

WHAT SHOULD BE THE CURRICULUM IN PUBLIC SCHOOLS?—SOME ASPECTS OF THE QUESTION IN FRANCE.

BY B. BUISSON, DELEGATE FROM THE MINISTRY OF PUBLIC INSTRUCTION IN FRANCE, TO THE WORLD'S COLUMBIAN EXPOSITION AND THE EDUCATIONAL CONGRESSES.

WHAT shall be the plan of work for a common public school? In what shall the curriculum of primary instruction consist? By the word *primary*, let it be remembered, we, in France, understand not merely the primary or lower grades of a common school, but also what you call here grammar grades, and even that side of the high school which is non-classical.

(By the way, would it not be a proper thing at this international congress to try to come to some international understanding about the definition of such terms as those of primary and secondary instruction; and is it not to be wished that we may adopt some common terminology about education as far as possible?)

But this is a parenthesis which I have rashly opened, and which I must promptly close, to come back to our purpose of this morning, the school curriculum of the primary, that is to say, the *elementary, public school*—the school destined for the great need of children between six and fourteen years of age. And yet if they would all stay at school until they are fully fourteen years old, the difficulty in providing them with a well-devised scheme of work would be more easily overcome. But unfortunately—at least such is not the case in France—many of them, having got their certificates of proficiency in elementary studies, leave the school before they are thirteen, and sometimes even as early as twelve years, and this hurry is a considerable cause of embarrassment to those who have to plan the

school work ; for you understand how hard it is to so arrange as to make a child evolve in six years, between the many circles of knowledge and successive occupations, which must be the most useful, the most formative, to bring about his physical, mental, and moral growth, according to a high ideal of the dignity of human nature.

But even if we set aside that difficulty which must occur everywhere—though perhaps less here in America than in the old continent, even if we suppose, as the thesis of this morning does, that the school age will be six to fourteen—what shall we teach our pupils of the common public school during those eight years in which the state is to undertake to equip them—these one hundred million children—for life, and complete the education of family and church ?

In theory the problem is, of course, comparatively an easy one. Let the school teach, we say, what is most likely to prepare the child to be a good citizen, an intelligent and active man. Let the school be satisfied to slowly but surely awaken his senses, his intellect, his faculties of observation, of reflection, of affection and action, and harmoniously build up his character, not by means of the three *r*'s, but rather by means of the three *h*'s, head, heart and hand, and make him fit for self-government, self-control, self-help, a living, a thinking being ; not a mere machine to become the tool of the ambitious and selfish politician, either despot or demagogue, or the dupe of a bigoted clergy.

It is all right as far as theory is concerned, but when we come to practice, what becomes of those beautiful schemes ?

The kindergartner says : “ You have only to go on with the kindergarten methods in the elementary school, and you will see how the child's faculties will bud and unfold themselves gradually, naturally, beautifully.” Very well, let us try it, by all means ; the experiment is surely worthy of being made, but this answer tells us more how to teach than what to teach.

The advocates of handicraft in school are also very eloquent about it, and say to us : “ Just introduce it in the curriculum, and you will see what wonders, what complete metamorphosis it will work for good.” So says the advocate of the teaching of citizenship and art of political economy and other pet branches. Reading is the thing, composition is the thing, agriculture is the thing, music is the thing !

Very likely there is something true in every one of those different views of the subject, though they are sometimes rather one-sided, not to say fanciful. But how to combine those new items with the old ones, and altogether arrange for the child a digestible menu ?

Now, ladies and gentlemen, allow me to set aside generalities, and to submit to your consideration simply a particular example ; that is to say, our own example. Not that I mean that we have reached the ideal in France—far from it ; but to show you the fruit of our experience, and to bring a more solid element for discussion, namely, facts.

Here is what has been done in France about our school curriculum, or, as we call it, *new programme d'études primaires*.

For time's sake, I shall not preface it by a short sketch of our educational reforms in general, which I think are pretty well known. After the important bills which do so much honor to the republican government, and by which all necessary schoolhouses and training colleges, even of the higher order, were created, and education was made free, unsectarian, compulsory, after the example of America, our educators and school authorities had to face the theory problem of the curriculum.

I must say that they took great pains over it; and here I think it is not out of place to describe shortly, to those who are less familiar with our modern French institution, a most important one in regard to educational matters: I mean our *Conseil Supérieur de l'instruction publique*, a kind of semi-elective council of advisers of the Minister of Education, whose principal function is precisely to prepare or revise school programmes, school curricula of all grades.

This assembly, which is unique, as far as I know, in the world, is most liberal and representative in its composition. It was created by a law (1880), and includes, besides nine high functionaries of the education department appointed by the head of the state, forty-five members elected by the universities, learned societies and schools and colleges of all grades. The elementary teachers themselves elect six representatives in the council, which is really a parliament of education, and perhaps the only one in Europe.

Now, it is those gentlemen, presided over by the Education Minister, who sat together and slowly, carefully elaborated our curriculum, which is surely not perfect, but which was the object of much thinking and talking over.

I need not say that it goes much beyond the three r's. The lucky phrase which the legend attributes to a well meaning, if not well spelling London alderman, is not known in France; but we have also the equivalent, viz., reactionary advocates of the so-called strict minimum, which means the unprogressive school politicians of the type of those whose faces and secret motives Colonel Parker unmasked the other day with such power and eloquence.

But happily their voice did not prevail in the Council Supreme. On the contrary, the programme they adopted was a very comprehensive—perhaps a too comprehensive—one.

It embraces morals and civics, reading, language (with object lessons, of course), arithmetic, geometry, elements of natural science, elements of national history, geography, writing, drawing, singing, and gymnastics, with the addition of manual work graduated so as to continue what was already begun in kindergarten (cardboard, sloyd in small schools, bench and metal work in large ones) and also elements of commercial tuition and elements of agriculture.

The industrial and agricultural programme, which is entered upon even in the elementary schools, is, of course, much developed in the high school, which we call *école primaire supérieure*, and which is quite different from the classical high school, or *lycée*, which in France belongs to what we call secondary instruction. As a fact, this scheme exists in France generalized by our centralization.

As I said, the fault of this programme, it may be candidly admitted, is, perhaps, that it is too complete; there is "*surabondance de richesse*." And of course it would be better to omit some branches than to flutter about every one butterfly-like. For if we avoid the danger of narrowness, we ought not to run into the opposite danger of overpressure and overloading.

But, in my opinion, this danger may be avoided if the teacher is well trained, and keeps to the spirit, not to the letter, of the programme. There are very good preambles explaining the curriculum, in the same way as those which many of your city and State superintendents, if I remember rightly, place before the school regulations issued by the Board.

Here are, for instance, the instructions to teachers about the mental, or intellectual, part of the school curriculum, subdivided into the three studies, physical, intellectual, moral. In conclusion: if the school programme is thus understood, with its objective instructive character—less bookish, less scholarly and formal than in former times—and worked in that spirit by the teacher; if the school time is not cut up into small sections; if reading is made the means by which a great portion of the supplementary subjects are introduced into the school routine; even an extensive curriculum may be carried out without confusion and overpressure.

But, of course, the success depends a great deal on the teacher; all will be easy if he or she carefully prepares a lesson on chemistry, physiology, or botany, for instance, by diagrams, pictures, and specimens. For this purpose school museums are invaluable, and can scarcely be dispensed with. As to manual work, either cardboard work, or wood work, or iron work, or modeling with clay, or gardening for boys; and needlework, cooking, and ironing for girls; let those occupations be advocated as most necessary whenever the school authorities can afford to supply the teacher with the necessary implements; for even when this kind of occupations do not serve to turn the children's tastes towards adopting industry and trade as their avocations, they have a most beneficial influence, first, as derivative from overpressure in mental work; secondly, from a social point of view, in enforcing respect for the dignity of handicraft and manual labor; thirdly, on purely pedagogical grounds. But before the age of ten or twelve if they are added to the school curriculum, means must be devised so as to bring them partly before or after the regular school hours, or else the children's time for the most necessary branches, those which bear the examination for the certificate of elementary studies in France, would be insuf-

ficient. When parents leave their children at school until they reach fourteen years of age, manual work or scientific notions necessary to agriculture and gardening are most useful, for it is between twelve and fourteen that the children show a great fondness for those active occupations, and are capable of making some real progress in them ; and, besides, it is a critical age, a turning point in life, when they are likely to choose their avocation, and a well-ordained course in manual or agricultural work may have a very decisive influence over their destiny. In conclusion : Whilst it would be very advisable to simplify the programme and to lighten the burden of work both for the pupil and the teacher, yet it is to be wished that none of those essential subjects should be left out ; but if the teacher is really competent, carefully trained, so as to bring in harmoniously those different branches within the school curriculum ; and if governments, states, cities, or generous donators may grant the necessary apparatus, school museums, specimens, workshop fittings, tools, etc., it is possible and even advantageous to include in the school curriculum all the above said branches, and none of them may be considered as useless ballast to be thrown overboard.

*WHAT SHOULD BE ADDED TO THE ESSENTIAL BRANCHES
OF THE ELEMENTARY COURSE OF STUDY TO MEET
THE INDUSTRIAL NEEDS OF THE LOCALITIES?*

BY PROFESSOR C. M. WOODWARD, OF WASHINGTON UNIVERSITY,
ST. LOUIS, MO.

My first answer is : *Very little, or nothing*, should be added, at least in America, for the reasons stated. Elementary education should always be broad and general—non-professional, non-occupational—and hence there is no sufficient reason for the addition of *local* elements. My position being essentially a negative one, it would be better, perhaps, for me to wait till I hear some good arguments in favor of adding something to elementary schools to meet the demands of local industries. One easily finds such arguments in Europe, but not in America.

Elementary education extends through the fifteenth year. I have no doubt but that in many European communities a large per cent. of the boys thirteen and fourteen years old, who are at school at all, receive special instruction in local industries. That is to say, the schools for boys of thirteen and fourteen are, to a certain extent, trade-schools. The schools of weaving, dyeing, paper-work, leather-work, lace-work, glass-work, toy-work, and light metal-work, fostered by the government, train the local children directly for local industries. They often begin earlier than the thirteenth year.

There are many reasons for such instruction abroad, and such trade-

schools are indorsed by most enlightened citizens. The government being somewhat paternal, the industries are permanent and characteristic. In a community devoted to a particular industry, everything centers and clusters around it. So long as the industry prospers, every boy and every girl too is in demand, and nearly every one takes the training, and goes to work, as expected, in the local establishments.

An American is always astonished at the thoroughness with which (in a silk community, for instance) every detail of the processes of manufacture is taught both to children and to adults, and how fully every scientific principle involved is set forth and illustrated. The result is surpassing skill and finish in their work. The methods are often very conservative, and hard labor enters more largely than would be the case under American management, and it is only by such thorough instruction that competition can be met.

The traveler who visits such a community, and studies its life and work, finds it hard not to approve. Unless a boy is trained in the rudiments of the industry at school, he is left out in the cold, and there is no remunerative work for him to do, and he is starved into a most degraded life, or driven elsewhere. The way of the industry is the way of whatever comfort, culture, and success seems to be possible. There is no doubt in my mind that these industrial schools have been of great benefit to the people, industrially, socially, mentally, and morally. But there is a better way.

I said that so long as the industry prospers, the community prospers; but when the industry fails, either because the product is no longer in demand, or because in some other and differently trained community the introduction of new labor-saving machinery brings in a fatal competition, so that the rewards of labor are no longer sufficient to sustain life comfortably and decently, then the community goes to pieces, and the narrowly trained workmen find it hard to make a living anywhere, and whatever of refinement they had before soon disappears. I believe the American plan is better, for several reasons.

In the first place we have no state or municipal industries, and it will be a long time before our factories get into the hands of government. In spite of Bellamy's vision, we shall draw the line at water-works, gas-works, telegraphs, and railroads—for some time, at least.

In the second place, I believe that there is a general training for our elementary, and I may add our secondary, schools, which is more valuable in the end than any special training. As I have intimated, early trade training is necessarily conservative. The processes appear to be arbitrary, the reasoning dogmatic, the range of vision narrow. "Thus did the fathers;" "Do as I tell you;" "Don't ask so many questions; you want to know too much;"—that is the atmosphere of a school where all are at last to be driven out through one door, into one occupation.

Our American idea is to have a great many doors of exit from our

schools ; to look broadly and closely through the underlying principles and processes of many callings, and finally to focus upon one the light that shines from all others. Such a course prevents an unwise conservatism and stimulates invention. I have said, and I here repeat, that the age of invention is just dawning, that manual training is the very breath of its nostrils. Hence I have no fears for American industries, even though we have no trade training in our elementary schools.

3. A third objection to early instruction in special industries is found in the fact, that it necessarily ignores special tastes and aptitudes. I need not elaborate this point.

4. Early special training is at the expense of versatility. No one should hang all his chances for life and complete living on one thread. To change the figure : The properly trained boy or man—or woman—always comes down upon his feet—tariff or no tariff ; silver or gold, or both ; strike or suspension—it is all the same.

5. The plan for purely general instruction in elementary schools is the plan of freedom. The idea of predestination to a particular calling by external conditions—whether pattern-maker or preacher, baker, banker, or blacksmith—is obnoxious. First develop the individual boy ; then let him discover himself, and finally the demands, opportunities, and possibilities of the world around him. He then may choose his work advisedly. It is our duty to assume that every boy is going to make the most of himself ; that he is to be a working factor ; that he is going to earn his own living ; build his own home ; buy his own books and pictures and pianos with the money he has himself earned. We must fit him most efficiently to earn his money as well as to spend it. I believe that the highest good to the individual always leads to the highest good to the State. It will be noted that I have not discussed the content of elementary education. That discussion comes at another time. I assume that it is harmonious and broad. I have only maintained that it should not, for local reasons, be narrowed and cramped by what may appear to be local demands.

I also leave to others the discussion as regards race characteristics.

WHAT SHOULD BE ADDED TO THE ELEMENTARY BRANCHES?

BY ALBERT P. MARBLE, SUPERINTENDENT OF SCHOOLS, WORCESTER, MASS.

(1) *Thesis* : "What should be added to the essential branches of the elementary course of study to meet the industrial needs of localities or race characteristics ? For example, should city schools introduce branches relating to commerce or manufactures, or should rural schools introduce agriculture, chemistry, and botany ?"

(2) IN this brief discussion it is assumed that the essential branches are those enumerated in the preceding thesis, namely: Morals, language,

number, geography, history of the country, writing, and drawing; the age of pupils being from six to fourteen years.

(3) Why these branches should be regarded essential is a question by itself, already discussed; but the grounds for considering them essential must be briefly stated. Morals include the relations of the individual to society, and reverence for the supreme power. This branch of instruction need not be taught in formal lessons. It pervades all school exercises, and it belongs to the very atmosphere of the school. Devotion to duty, self-control, regard for the rights of others, love of truth in all its phases, reverence for the Creator—all this permeates every school exercise. Without due attention to the moral side, all education is a failure. The study of number cultivates the power of exact reasoning. Geography teaches all the facts relating to the earth which we inhabit; and as the dawning intelligence of the young child at the very first takes note of his surroundings, so the child in the elementary school should study the earth on which he lives.

Language is the power of expressing thought; and as the thought expands with the expression, and no faster than the power of expression—as accuracy of expression is indispensable to accuracy of thought—this study is essential. Writing and drawing are forms of expression, and as such they also are essential. They have a further use in cultivating the eye and in giving control of the hand.

The history of the country is essential because this study connects the past with the present, and forecasts the future; it invests the world with a human interest; it insidiously makes the child feel that, as one of the human family, he has a vital and personal interest in the universal order—in all this vast concourse of things. These subjects are essential because they have been developed from long experience, because they have been instrumental in training generations of successful men, and because they are agreed to by thoughtful men generally—by all except those whose supernal conceit leads them to think that whatever is, is wrong.

The question here proposed is, What should be added to these essential branches to suit (a) the local industrial needs and (b) race characteristics?

(4) Involved in this question is the antecedent inquiry, What is the purpose of public school education?—for this discussion relates chiefly to public schools. Should the education be specific, to fit the child in a narrow way for a particular calling, or should it be broad and general, to develop manliness, good citizenship, self-control, and application—to put the child in possession of himself, of all his powers? Undoubtedly education should be thus broad and general.

(5) Public school education in this country has been an independent and, in some respects, unique growth. A brief reference to the history of this growth will throw light upon our theme, and the changing conditions

will indicate the modifications that may be demanded and wisely introduced.

The first public bequest for education in the American colonies was made to Harvard University by the colony of Massachusetts Bay in the year 1636, "that learning may not be buried in the graves of our fathers in church and state." Elementary schools were established later. Still later, and by degrees, these schools became universal and free; and with the growth of democracy and the establishment of the Republic, they came to be regarded as an essential factor of the national life, and they have extended to every State.

It is to be observed, that in the early colonies and in the new States, among a rural population, the schools confined themselves to teaching the three *r*'s—to book learning. All the industrial arts, the domestic virtues and duties, and religion were left to the family. On this plan there has been a long period of national prosperity and general intelligence. The country thrived, the people were industrious, frugal, capable, and patriotic. With no special emphasis upon the flag in the teaching of the schools, there was no lack of patriotic devotion when the country called for service and sacrifice; with no special attention to mechanical or other industries in the schools, business was prosperous, and there was no lack of intelligent artisans. Education was general and not specific. It was not the aim of the schools to assume the responsibility of the entire training of youth, intellectually, physically, and morally, after the manner of the ancient Spartans.

With the invention of machinery, with the inauguration of vast commercial and manufacturing corporations, with the division and sub-division of labor, and with the rapid development of the country subsequent to the Civil War, through immigration, society has changed, and the problem of education has become more complex. The family is not now the political unit which it was. The fathers do not carry on a small, independent business where their sons can be employed; the mothers do not conduct domestic industries to engage the labor of the daughters. Men have become mere cogs and wheels in the vast industrial machinery, in which the children frequently find no place, and the parents have no time left to work with the children.

(6) In this state of society, which is far from the ideal state, shall the public school assume the responsibility of the entire education of the children? Shall the school perform the function of the parent and of the church? If so, shall the education be specific, to fit certain boys for certain trades and adapt them to the "local industries," and conform the schools to "race characteristics"?

In the Swiss city of Zurich the children in school are taught the chief industry of the place; in China industrial occupations are thoroughly taught, and the inhabitants acquire wonderful deftness; the aborigines of

this country were very skillful in certain kinds of handiwork. But the Indian had no civilization for us to copy; the Chinese civilization is not superior to ours; and what American city has an industry which it would be profitable for all the children of the city to learn? At Waltham, Mass., watches are made; would it pay to teach all the children of Waltham the watchmaking trade? Could they all be employed in that business? and does any one there make a whole watch, or only a particular part of a watch? If the children of a farmer could all be taught farming in the schools, would they all become farmers, and would it be best to make farmers of them all? And as to the "race characteristics," what peculiarity of race is there which, imported into this country, should be propagated in the public schools? If there is such a peculiarity, is not that the very thing which should disappear in the American citizen? *Cahensleyism* is the last thing which the public schools should encourage.

The answer to the thesis, then, is that no study should be added to the elementary course because it meets the industrial needs of a locality, or favors the race characteristics of any people.

Public education should aim at development and culture only; and the manual and industrial, and any other element, should be adopted only so far as it can be shown to contribute to this development and culture. The work in any one of these lines belongs to special schools, and for such schools the need is a sufficient warrant.

For the purposes of this development and culture, though not for local industrial needs, there are various branches of study which may profitably be added to, but which should not displace, the essentials already named. These quite generally are objective and concrete. They are embraced under the general terms *Nature Studies*, *Physics*, and *Forces*. They should be taught objectively, from the overflowing abundance of the teacher's knowledge, through a lively interest aroused in the child, and not as tasks from dry text-books; in this way they may supplement and vivify instead of supplanting the essential branches. There is a world of interest, pleasure, profit, in botany, in entomology, in zoölogy—the birds, the fishes—and in the rocks. The study of life in all its forms, in any of its forms that may be observed; the noting of facts, the inferences, and the recording of these facts and inferences—this study is unsurpassed as a means of culture. The mechanical powers are seen in every motion of daily life, and in all the business that goes on. The elements of physics are a branch of study equal to the one just named. The forces of nature—gravity, light, heat, electricity, chemical affinity, not in the theory so much as in the practical manifestation—these should be added, in the incidental way already pointed out.

This list is long enough to introduce the discussion, but it is not exhaustive, and the essential branches may be broadened indefinitely. For example, language may include literature; but this enlarging and this

broadening may be ruinous if it is not judiciously handled. In watering growing plants, drowning may kill. All depends upon the skill of the teacher, and everything must be done for the single aim of developing the native power and putting the child in full possession of himself.

DISCUSSION—RACE CHARACTERISTICS.

G. W. HICKS, Inspector of Schools, Jamaica, West Indies : *Ladies and Gentlemen*—When my friend General Eaton said to me that he would be glad if I would say something here this morning I could not say nay, for I thought possibly I might say a word about our educational condition in Jamaica that might be of interest to you. The people of Jamaica have proceeded slowly but surely in the line of improvement, and I think that no one who knows what has been attempted in Jamaica and what is now being done in Jamaica can fail to form a very favorable opinion of the possibilities and probabilities of the future. In the thesis under discussion this morning my attention was specially attracted by the expression *race characteristics*; and I have no doubt General Eaton had something of that in his mind when he asked me to speak upon this thesis. In Jamaica our people generally are of a race different from the Anglo-Saxon. They are a black people, and those whom we call the colored people, a mixed race, sometimes known as brown. They constitute the very great proportion of our population; more than nine-tenths. I do not know that I can tell you what are their race characteristics. The people are different, but the differences may result from other causes than racial. The environment has been very different, and what shall finally be determined as racial characteristics I do not know. I have a very strong opinion that it will be found to be a difference in degree and not in kind. Certainly, so far as elementary education is concerned, that which is best for the boys and girls here in America or in England is found to be the best for the boys and girls in Jamaica.

All boys and girls in all countries, of all races, need these three things: they need knowledge, power, and ability to do; they also need aspiration, a high ideal, a reaching forward to something progressive. Now, the American boy in New England and in the Western States would find among his neighbors and in the community those influences, those educational agencies which would largely give him power or ability to do and give him aspiration. He would get much of that also in his school.

Our boys and girls in Jamaica need to find in the school that which is found here outside of the school. One English gentleman, who visited your schools a generation ago, and greatly admired what was done here in America—admired the American schools and the American people—gave it as his opinion that while there was in America an unusual amount of intelligence among the people, and especially among the laboring people, that we owed less of it to the schools and more of it to the environment than was generally supposed. The environment in Jamaica is not very healthful. The homes are not those which give the impulse and the training that the homes of the New England farmers and the Western farmers, and the New England mechanics and the Western mechanics, give here in America.

Now, the improvement will be not so very much perhaps by addition to the curriculum as by the method of teaching the studies in the school. If the teaching can be so done as to develop along in every study an ability to do, the child, when he leaves school, will have power. That would be an improvement. The lack of power is exemplified among our people in the building of the churches. Those who are ministers of the people come to them from England, Scotland, Germany, and some from America. They are continually adding to their church buildings. They are taking down the poor ones and building better ones. That is a sign of progress in Jamaica. They haven't much money; almost invariably the schoolmaster superintends these buildings. He has had no training as a carpenter or mason, but he has a general education and is chosen to supervise. He has to watch continually the carpenter and the mason whom he employs, lest they make great blunders. They can do the work if they are told just what to do; but many of them appear to have that sort of ability which was possessed by the man who made a large hole in his door for his cat to go through, and then made a smaller hole for his kitten to go through. Unless they are watched, if they want a short piece of lumber they will take the longest piece there is to cut it from, instead of taking one of the shorter pieces and cutting the short piece from that.

They need in the schools such a teaching as shall continually develop their mental power so that they shall not simply think, this will do ; but, is there anything better than this ? There is a lack of thinking power among the people which is due, to some extent, to defective methods of teaching the ordinary subjects of the schools.

The introduction of agriculture among our people, an agricultural people, is about to take place under government authority, and I have no doubt if that is properly taught it will tend to develop that power of which I have spoken, and which is now greatly lacking, but it will no more develop it than the proper teaching of almost any other subject.

Schools which I have inspected in Jamaica will give you as fine specimens of penmanship as any that can be found in this marvelous exhibit in Jackson Park ; and in other things they will show as much knowledge as boys and girls of similar age in other schools ; but they lack power. They also lack aspiration. They are not lifted up to seeking higher ideals, seeking for that progress which seems to be a characteristic of all the boys and girls of America, and I presume largely of every civilized country. In securing this aspiration Jamaica needs better teaching power, and it needs better text books. It makes a great deal of difference what sort of a reading book you put into the school. And it will make a great deal of difference what sort of a history you put into a school. I had occasion recently to send to America to place in the hands of some young men in Jamaica a history of the United States, which would show the causes of the great war, and I got a history in which every essential thing was eliminated, and there was nothing left there that would account for that unparalleled struggle on the part of the people of the North in which my friend General Eaton, and in which I myself, bore a part. I trust I am uttering no discordant note when I say that I think that the history which you place in your schools should contain the essential things which explain the great facts of the great struggle in which you took part, and which has so greatly influenced the destinies not only of this land, but of all lands. I read not long ago something from a gentleman who spoke of the great influence for good which McGuffey's old readers had when he was a schoolboy. I read those readers, and I want to say Amen to all that he said. We want in our reading books a record of great deeds ; we want the great thoughts of great minds to lift up the boys and girls, and give them that aspiration and that spirit to which Superintendent Jones referred.

We, in Jamaica, watch very carefully all that is being done in America, and take a great interest in all of the discussions in regard to the introduction of manual training. If you can solve the problem of how that can be successfully introduced into our common schools with our ordinary teachers, you will have done us, in Jamaica, and the world in general, a very great benefit.

WHAT SPECIAL WORK SHOULD BE UNDERTAKEN IN THE ELEMENTARY SCHOOL TO PREPARE THE PUPILS FOR THE DUTIES OF CITIZENSHIP?

BY WM. A. MOWRY, SUPERINTENDENT OF SCHOOLS, SALEM, MASS.

It is taken for granted that "elementary school" here referred to means the elementary "public" school. By this term, public school, is meant in this country a school maintained at public expense ; that is, by taxation. The fundamental principle of the American public school is that the property of the State is taxed to educate the children of the State. The assumption, therefore, is clearly implied that the welfare of the State demands the education of all the children. These several points are here assumed without discussion.

The next important question which arises is, In what branches and with what motive shall these children be educated ? It is not within the

province of this paper to discuss this question further than to point out the one fact, clearly to be inferred, that if the school is supported by taxation in order to maintain firmly republican institutions, the nature and character of these institutions, the facts concerning our Government, and the duties of the citizen under it, should most assuredly be taught in such school.

I shall take the ground that special provision ought to be made for inculcating patriotic sentiments, and preparing the pupils for their responsibilities as citizens, in all the grades of the public school. As this discussion, however, is confined to the elementary school, we shall have to deal only with what is usually comprehended under two grades; that is, (1) the primary school, (2) the grammar school.

THE PRIMARY SCHOOL.

In the first place, it would be necessary for the teacher to have clearly in mind what is to be taught during the time the pupil is in her particular grade. A clearly-defined plan is essential to intelligent teaching. I will here only indicate certain things that seem to me both feasible and desirable to be taught to the child in the lower grades of the primary school:

1. In what town or city he lives.
2. What are the adjoining towns or cities.
3. In what county he lives.
4. What are the towns or townships and cities in the county.
5. The name of the State in which he lives.
6. The name of the Governor of the State.
7. The name of the country in which he lives.
8. The name of the President of the United States.

Some may contend that such teaching should be delayed until the pupil is old enough to comprehend and appreciate more fully the nature of the facts and conditions dealt with. I am quite inclined to think, however, that the principle is a sound one, entirely defensible, philosophically and pedagogically, to teach in an elementary way facts which may not until later be fully comprehended in all their causes, conditions, and effects. When I was a small child at school, only five or six years of age, I learned the fact that Andrew Jackson was then the President of the United States. The learning of that single fact at that time has been of great service to me since. It has enabled me to fix dates, to associate related facts of that period, and has served in reality to mark an epoch not only in my own life, but in the history of State and nation. The great epochs of the world, like the Flood, the escape of the Israelites from Egypt, the Hegira, the founding of Rome, the birth of Christ, the discovery of America, the Thirty Years' War, our Revolutionary War, our own Civil War, are dividing lines, to be used as starting points for the comparison

of events considered chronologically. So in the life of every individual, if his first schooldays are marked as being in the administration of Andrew Jackson, or James Buchanan, or Grover Cleveland, this forms a central date from which, in later years, he may go backward or forward in the history of the country. All previous events he learns historically; all subsequent events come within the period of his remembrance.

Nor is this matter of history of little importance in the patriotic view. The knowledge of the facts of one's country must be known before one can have love of country. What has been said, therefore, is sufficient to indicate that we must begin very early in the life of the pupil to teach him the essential facts of the history of this nation.

9. The learning of patriotic selections.

10. The singing of patriotic songs.

11. The observance of patriotic anniversaries, such as Independence Day, Memorial Day, the anniversary of the battle of New Orleans, and that of Bunker Hill, Washington's birthday, Lincoln's birthday, and so on.

Of course, much more can be done under several of these heads in the years of the grammar school than in the primary grades, therefore they will be considered more fully later.

THE GRAMMAR SCHOOL.

During the years included in what is usually called the grammar school course, much can be done both incidentally and by systematic study, in relation to the responsibilities of citizenship and the duties of the citizen.

1. The subject should pervade the atmosphere of the schoolroom. The teacher should constantly bear in mind that each pupil is an American citizen; therefore, in all teaching, more especially in geography and history, the question of citizenship should be uppermost in the mind.

I am aware that this is very indefinite. It is doubtless true that many teachers are not prepared, either naturally or by their previous training, for this sort of teaching, but the same thing is true in regard to other subjects; both preparation and instinct must be present, or no great success can be secured. Nevertheless, it is true that every teacher can do much, if she has the will to prepare for this important work.

2. One of the most important means for inducing the spirit of patriotism and preparing pupils for the duties of citizenship is to be found in special work connected with the study of the history of our country.

In the colonial history, the character of the first settlers, their strength of mind, intelligence, and earnestness of purpose may be dwelt upon with great advantage. The period of the American Revolution and the formation of our national government gives fine opportunities to inculcate a spirit of loyalty to our republican government, and of patriotism and appreciation of our peculiar political institutions and advantages.

The history of the formation of the Federal Constitution, and an account of its peculiar provisions embodying the genius of our government in its three distinct departments—legislative, executive, and judicial—should be carefully developed, and clearly impressed upon the pupil's mind. The growth of our country, its rapid progress in material resources, its increase in the variety and quality of its industries, its present relative strength among the nations of the earth, with its extent of territory, its large population, and its great wealth—all these things are calculated to stir the hearts of the pupils, and increase almost to a boundless extent their appreciation of, and a natural and legitimate love for, the great country which they can call their own.

3. In this connection it may be proper to call attention to the practical lessons of patriotism so easily given in the celebration of special anniversary days. Independence Day, Washington's Birthday, and the dates of important events like Lexington, Bunker Hill, the battle of New Orleans, Commodore Perry's victory on Lake Erie, Gettysburg, Appomattox, furnish opportunities for valuable lessons in patriotism. It is scarcely necessary at this late day to call attention to the importance of having the American flag float from the top of every schoolhouse in the land. On all patriotic occasions that flag, which is at once an emblem of freedom and an epitome of our history, which indicates by its thirteen stripes and forty-four stars the autonomy of our government—this flag floating in the breeze inevitably conveys lessons of strong patriotic sentiment and love of country to the hearts of all children. On these occasions, too, if the lessons from the historic page are enforced by recitations and readings culled from the vivid pictures and eloquent utterances of our great authors, such as Washington and Jefferson, Webster, Clay, and Lincoln, the mental effect is greatly strengthened.

4. In the lower grades of the grammar school, instruction should be given from time to time in the simpler elements of our governmental machinery. Almost every State publishes in some form a manual of the legislature. This manual generally contains the State Constitution, and frequently the Constitution of the United States; a list of the State officials, including the executive, legislative, and judicial departments; the rules of the House and of the Senate; a description of the several grades of State Courts, with the times and places where they are held; a list of counties and county institutions, and, in some cases, townships and their officers. This manual can usually be obtained by teachers who are interested in this subject, and from it can be drawn most important lessons concerning the duties of citizens and the institutions and forms of our government.

If it were in a New England State the first lesson would naturally be upon the township and its officers, mentioning the particular names of the officers in the town in which the school is located; and the teacher can

then discuss with the pupils the duties of the moderator of a town meeting, of the town clerk, the selectmen, the constable, assessors of taxes, overseers of the poor, school committee, and other officers.

Wherever the township system is not made so prominent, the county system and county officers should be considered in like manner. Then the State officials and State institutions can be followed step by step, until by a series of carefully elaborated lessons and familiar talks by the teacher, taking up one thing at a time, the groundwork of our whole system of government may come to be clearly understood by the children.

5. We come now to a consideration of what many believe to be the most important part of this discussion. There remains for us to consider the direct and specific study of civil government in the upper grades of the grammar school. I believe that in schools sustained by public taxation there should certainly be taught, as a definite subject, to all the scholars in the upper grades of the grammar schools, the government of our country—its principles, its genius, its institutions, its offices and officers, their duties and their responsibilities, and the duties and responsibilities of citizens. There are many elementary treatises on civil government prepared expressly for this use, and some one of them may be used as a text-book in the last year's work in every grammar school. Here can be systematically unfolded the facts of our local government, whether township or county, the State government, its powers and limitations, and the peculiar province and characteristics of the National government.

This study is not beyond the comprehension of grammar school pupils. It can be made of special interest to them, and is of the highest practical value to them in after life.

In presenting this study before a class in the upper grades of grammar schools, great advantage will be found to accrue from acquainting the pupils directly with the doings of the citizens in town meetings, in county conventions, the State legislature, and the courts. Wherever it is possible, the class in civil government should at least once a year make a visit to the State capital and attend a session of the Senate and of the House. In like manner, a visit should be made to some one of the State courts, so that the pupils can observe the forms by which a trial is conducted.

6. Another excellent practice is to carry on, in due form, an election by the pupils of the school on Election Day. If it is a town election, let the pupils carry out the form of electing the town officers. If it be a State election, let the political parties hold their caucuses, make their nominations, and, on the day appointed, let the election take place in due form, in accordance with the State laws, with all the paraphernalia that is actually used, with a subsequent counting of votes and announcement of the result. If it be the day of the election of presidential electors, let that be carried on by the school in like manner.

I am fully persuaded, from long experience and wide observation, that

this subject has not yet received the attention which it merits. I believe that it is a matter of the utmost importance for the perpetuity of our institutions, the maintenance of our free government, and the general prosperity of our nation, that the study of civil government should be carried on and carefully attended to in all of our grammar schools.

I therefore recommend the subject, with great earnestness, to the thoughtful attention of all the distinguished educators who have honored this congress and this occasion with their presence.

*THE VALUE OF THE ELEMENTARY SCHOOL FOR
THE SOCIAL VIRTUES AND FOR TRAINING FOR
THE RIGHT EXERCISE OF THE DUTIES OF CITI-
ZENS.*

BY MISS CATHARINE H. SPENCE, OF ADELAIDE, SOUTH AUSTRALIA.

THERE is little need, before an assembly like this, of spending time in defining what education has been and what it ought to be. We may presume that, as we have outgrown the old idea that education is merely learning what other people have told us, we ought to outgrow also the more recent idea that education is merely to give us tools for our own advancement and success. The value of the three R's has been enormous in a society where every one had not mastered them. Now it must take the negative form that, in our present circumstances, every child who does not know how to read and write and to cast accounts intelligently is handicapped in the race of life, and placed at a disadvantage at every turn of fortune's wheel; and all civilized nations are agreed that this minimum of school teaching shall be given to all children, and that school attendance shall be enforced by law. . . But it depends on the use that is made of all knowledge, even of these barest and most elementary elements of education, whether their exercise is a bane or a blessing to himself or to the community in which he lives. If a man prefers to read bad books to good ones; if he writes lies and slanders, or commits forgeries by means of clever penmanship, and if he uses his proficiency in figures to cheat other people not so clever as himself, his three R's are a curse and not a blessing. Therefore, I think more of the tone of the school than of the attainments of the pupils; and the tone may be so individualistic as to atrophy the natural social instincts. And the desire to outstrip all competitors may be so encouraged by praise and rewards, that the seeds are sown in school which take root in after life and make self-advancement the whole duty of man.

If we transcend the elementary three R's, we must see that we work toward the development of what our French fellow-educationist happily

called the three H's—the head, the heart, and the hand. For if our children study history, whether that of their own country or that of other countries, without admiring what is noble and generous and courageous and patriotic, and hating oppression and cruelty and deceit and cowardly selfishness and greed, they will make none the better citizens though they have the names and the dates of all the battles that ever were fought, at their finger ends, and could tell the succession of all the presidents of the United States and of all the sovereigns of Europe.

If military glory is made paramount in the teaching, children imbibe the militant spirit. If material prosperity is held forth as the great object of life, the ideal which is in every child is starved ; and in both of these misdirections the social instincts have not got fair play.

We must bear in mind that the common school is often the only civilizing agency with which children from poor, rough homes in the cities and the country are brought into contact. The regularity of school hours, the serviceable pressure of school discipline, the requirement for personal cleanliness and civil and decent language while in the school-room and on the playground, the punishment of cruelty and rudeness among our younger citizens, are mighty forces whose value is apt to be underrated. The higher the attainments of our teachers, the more gentle and dignified are their manners ; the more these necessary rules are reinforced by the respect and the appreciation which the individuals who carry them out win from their pupils, the lessons of courtesy, of mutual respect and mutual forbearance sink in the more deeply, and the tone of the school is elevated and sweetened all round.

In spite of Herbert Spencer and his school, the trend of thought in our era is unmistakably social. And unless our future citizens—our future masters—are prepared for wisely handling the great problems of our day, their education is one-sided and defective.

Jeremy Bentham made a great stride in ethics when he declared that the object of all legislation should be the greatest happiness of the greatest number ; but we have got beyond this. The greatest happiness, even of the greatest number, should not be pursued at the sacrifice of the happiness of the smaller number.

How can these higher ethics be taught in the common schools ? Directly, in the wise choice of the lessons which children read, and in the moral lessons which I believe are given in America and in Australia ; and indirectly by the influence of the teacher over the tone of the school. And the lessons need not be namby-pamby, for the social virtues are not built on the foundation of charity and almsgiving, but on justice. It is because ambition and competition are so apt to be unjust, to take advantage of the weakness of others, to deal with others as they would resent being dealt with themselves, to climb on the fallen, to squeeze the hardest terms when the other party is at a disadvantage, that they are to be dis-

couraged. Many successful men are liberal in benefactions to hospitals, Magdalen asylums, and colleges, and I do not quarrel with them for that ; but these things do not right the wrong they may have done by hard dealing with their employees, or by what is called rigging the market, so as to make timid people sell too cheaply to them, and sanguine people buy too dearly from them.

The social virtues are not effeminate or weak virtues ; they are built on the strong foundations of justice. They carry out the highest and the best rule of life—the Golden Rule—to do to others as we would that they should do to us. And in every relation of life the broad principles of equity would prove sufficient for the individual as for the social organism.

How are we to teach our future rulers, in the common schools which all of them attend, such principles as will make them prefer a good newspaper to a bad one, and will make them use their voting power intelligently and honestly ? A citizen in a free state ought to be educated to a feeling of public spirit. I believe that the children in the United States are educated to loyalty to the flag much more than children in England or Australia. All sing patriotic songs, and it thrilled me much at San Francisco to find that a national song of America, "God Bless our Native Land," is sung to the same tune as our "God Save our Gracious Queen." It appears as if the tune were going round the globe, symbolizing loyalty to country.

It surely is quite possible to teach children before they are fourteen years old the difference between *public* spirit and *party* spirit, and the relations which citizens in a free country hold with the government—municipal, state, and federal. Government in all these three forms is at once the master and the servant of the people. As our master, it must be obeyed, even although we may not believe all the laws of the land to be wise or just ; so long as they are the laws, we must respect and obey them.

But as our servant, the municipal, the state, and the federal government must be watched and checked ; unjust laws must be opposed by all legitimate means, by free speech and a free press ; unworthy members of the city council, of the state legislature, or of the federal congress should be exposed, and, by the exercise of the suffrage, be replaced by better men. Boys and girls much younger than fourteen can be taught that it is wrong and contemptible to sell one's vote, and the collective conscience of the class educated toward purity of election. It is the duty of citizens of a free country to use the machinery of representation honestly, and if that machinery is defective, to work for its improvement.

The first lesson I learned in politics was from the lips of my mother, when I was six years old, on the question of the English Reform Bill of 1832. She said she did not think anything was so good but that it might be made better ; nothing devised by man that man could not improve. That lesson was given at a very early age, and it was followed up by

others. It helped to the building of my character and to the shaping of my life. I am still learning it. I also learned much from the very intelligent woman who gave me all the school learning I have had, and that ceased at the age of thirteen, when I went to Australia with my parents. She had appreciation for the bright and patience with the dull. She preached to us all a sermon on the text, "Splendid talents are the lot of few, but our gracious God has put within the reach of all those qualities which insure respectability and usefulness in life"—industry, frugality, and sound principles; and she made it very interesting.

Therefore I maintain that it is quite possible to give education in the duties of a citizen in our elementary schools. I wrote a little book for the Education Department of South Australia; the title was given to me—"The Laws we Live under"—but I did not confine myself to the actual laws of the statute book, but glanced at the economic and social laws on which our prosperity and well-being depend, and I also tried to explain such things as protection and free trade, friendly societies, trade unions, savings banks, insurance, newspapers and other organs of public opinion.

A good teacher can make a lesson as interesting about the relations of land, labor, and capital as on any other subject he can choose. He can show the advantages of tools and of machinery, and can appeal to the common sense and to the experience of his pupils.

And he can draw analogies between the law of the family, the social unit, and the law of the school, which is a collective unit, leading to the law of the land. As a good scholar would be ashamed to break the desks or make holes in the maps, or to injure any of the school property, so should a good citizen be ashamed to destroy government property, to waste government money, or to cheat the government revenue. Their fellow-citizens suffer by these things.

There was one important point which I tried to make very clear, because in all the Australian colonies the government undertakes and executes so many public works that are left in older countries to private or associated capital. But still, I dare say, there are such things as appropriations even in the States.

A good citizen should always study the best interests of the whole community, and not let his private interests, his class interests, or his local interests come between him and what is best for every one. If he has a piece of land to sell, and asks twice as much for it from the government or from the municipality as he would accept from an ordinary buyer, he is trying to make all his fellow-citizens pay twice as much as its worth for the sake of his *private* interest. If he wants laws made to favor his trade or business, so that people should pay more for what they want than without these laws—that is his *class* interest that is warping his judgment. If he wants government to lay out money in his district that is not needed, then it is his *local* interest that he opposes to the general good.

The class and local interests need to be watched closely, because they are encouraged by those around us who are of the same class and who live in the same locality, and they are extolled by them as showing genuine public spirit. Selfishness pure and simple does not meet with this encouragement, because other people's private interests are different from our own.

There are many points of detail in which a primer on the duties of a citizen written for American children would be different from what would suit Australia, but the broad principles might be the same. We have no such great issue as the election of the head of the state for four years, nor have we the bewildering number of officials to elect. But the responsibilities of citizens in America appear to me to be the greater because the country is so great, and because it stands out as the greatest permanent democratic government in the world. And the manner in which the best men keep out of politics seems to me to point toward the necessity of training all the young for citizenship, of inculcating from the earliest years the duty that every one owes to the land he lives in. And, whether girls are going to have the suffrage granted to them or not, they should not be excluded from such lessons. The word citizen should be understood in its widest sense, as one subject to the laws of the land and having an interest in all things which concern other fellow-citizens. It does not mean an inhabitant of a city; it does not mean a voter at elections; it means a member of a community.

Although the girls in our public schools may never have to vote at elections or to serve on juries, and cannot aspire to be representatives or congressmen or presidents of the United States, they have too much interest in good government and too much influence in the world to be left safely in ignorance of the great natural laws of Providence or of the law of the land. It has been by the advance of civilization and by the operation of just laws that women have been raised from being the drudges or the toys of men to be their companions, and in many respects their equals. The progress of the world in health and in wealth, in knowledge and in goodness, depends on the character and conduct of its women as much as on those of its men, and there can be no greater mistake for girls to make than to suppose they have nothing to do with good citizenship and good government.

The fact that so much of the work in your elementary schools is in the hands of women, and that these are not supposed to take any active part in political matters, ought not to tell against my argument. Many of our political methods are inherited from old militant ideals. The desire that our party should triumph, right or wrong, is a legacy from the desire that our country should triumph whether the cause of war was just or unjust.

Women ought to build up from the social and not from the militant

standpoint. And the tone and atmosphere around a bright, intelligent, kind-hearted woman foster the nascent civic virtues.

If I am asked what school exercises are most valuable to educate for citizenship, I fear I should say that it is exercises out of school which are the best. Miss Wheelock, of New York, spoke this week at the Woman's Building about the civilizing and the humanizing effect of giving playgrounds to the children of the city slums as well as kindergarten training to them. I believe that it is in the games which children play that they learn most thoroughly the principles of justice and to yield to public opinion. All games have rules; many games have a referee, in case of alleged infractions of rules. "Fair play" is the earliest conception of justice which enters into the mind of a child. And there are some good rules with regard to games which are not kept up in the great game of life, when the stakes are so much heavier. If a boy is a much better runner than his fellows, he is handicapped in the competition for victory in a race. In life, the man who has won the prize starts so many more yards ahead, instead of so many yards behind, for the next contest.

But the scorn which is poured out on the boy who takes an unfair advantage in order to defeat others is the expression of a healthy and just public opinion, and I should like to see it retain its vigor and its efficacy all through life.

Still, no doubt, there are school exercises which promote education for citizenship at present in use, and others might be devised. The most important at present are music, in the shape of school songs, and drill and discipline. School singing is social; each young voice lends its tribute, and different voices are allotted to part singing. The voice of each is subordinated to the general effect. Drill is also helpful to the social development. Step for step with regularity, without jostling or confusion, each takes his place and keeps it. These things are done unconsciously, as a matter of course; but a teacher who wants to train citizens could show the social equality and the social value of the school singing and the school drill. Discipline saves much time and much tear and wear to teachers and to pupils, and no school prospers without its aid. But when discipline becomes the master and not the servant of true education, one sees it in the tone of the school. There is a want of elasticity and of spontaneity.

The discipline ought to be such that the consensus of all the best pupils is on the side of law and order. And is not this the best training for citizenship in a free country? The days of the autocratic schoolmaster are over, even in countries which we consider to be somewhat despotically governed. And it seems to me to be the death-knell to absolutism when future citizens have their rights respected by the teachers. They are likely to demand them from the monarch.

Good manners are the outward and visible expression of good morals.

They cannot be taught too early. The home is the first and the best school for them, but the school may supply the defects of many homes in a great measure. Our nursery for citizenship should have sweetness as well as light. There are social points in all branches of knowledge, but they are often hidden. It is the duty of the true teacher to point them out and emphasize them.

I heard yesterday in the Art Section, from Mr. Stimson, lessons for citizenship given by means of drawing. If the teacher has in his heart the feeling that to train worthy citizens is his prime duty, every subject which he presents to his pupils will be instinct with this conviction. If, on the contrary, he cares nothing for public duty, the best textbooks that may be put in his hands will fall dead on the class. Let us first inspire the educators; the inspiration will be communicated to the schools.

METHODS OF TEACHING HISTORY TO CHILDREN.

BY MRS. MARY H. PEABODY, OF NEW YORK.

To make the briefest possible statement, I would say that I was led to this method of teaching history by the manifested needs of a class of children from eight to twelve years of age. I took them from a kindergarten, and sought to carry into school the principles taught by Froebel. The subject of the children's study was truly man and his occupation of the earth.

As all action is related to nature, I considered political geography as the results of the movements of man, and physical geography as the outward cause and guide of those movements; the two therefore can be learned incidentally, not as separate lessons.

In opening the work, I was led by the questions of the children to the beginnings, to the origins of things—to the sun, the earth as a planet, to its growth and geological construction, and the progress of life.

The lessons were given round a table with globe and maps, and began with personal experience, and were intended to touch the child's natural relationships. There was the land to speak of, its boundaries, its name, and flag—all that they knew about it here and now; its present condition, people, and methods of life. These made a series of lessons, related intentionally to the history, yet with variety in the subject to awaken the child's consciousness of alliance to nature, to God, and to his fellows.

Human life, like the earth, has its natural divisions. These are the family, the race, and the nation. The first two are opposites; the third is the result of their union.

The family is the near, close relationship which by birth gives name, position, and something of personal character. It is the unit of society.

The race, using the word as in anthropology, is the largest relationship

of man, showing wide distribution of *general* physical characteristics and types of language.

Out of these two elements, and by means of their combination, rises that supreme form of life, the nation. In the nation families of all races mingle more or less, as children see in their own country. Still, each nation has been born into the world with a special character of its own, and upon its own land, out of the life first planted; each nation has expressed a life entirely individual and characteristic, by virtue of which it stands apart from others, has its separate history and its own name.

The earth is thus peopled by the nations; the keynote of history is the principle of nationality. The nation is the highest degree of existence. It is the completion of society, the form of life dearest and most sacred, to which the family is sacrificed if necessary.

Within the nations, as expressions of their character, arise every form of human thought relative to government, religion, and life. The growth of the nation is the following out of the natural law of organization.

All force of life coming from God takes some organic form by which to represent itself. It uses nature as its support, moves even unconsciously after divine law, and offers at once the organic, consolidated growth of humanity, with room for the individual in his protected personal life.

The nations have arisen like seeds planted in the earth, moving after the plan of God from east to west. Each has left its life behind as an inheritance, or uses it organically, as a whole, in connection with others. Thus to know the rise, progress, and decline of nations as a few great characters who have dwelt upon and now use this earth, is to know history.

To know the great distinctions of anthropology enables us to separate and classify the nations, to comprehend the differences of physique, language, and general cast of mind. To keep the nations in contrast on this ground is the comparative method by which all minds seek to study and to know the progress of a few great thoughts and ideas in their movement from east to west; is to see the divine plan of life worked out by human hands, as men have fought, built, governed, written, sung, and wrought their art work, each in the land that was given to it.

To teach history, if we pass through the outer aspects of things and take the natural history of man as the basis of his political history; if we use the personality of the nations, as America, or India, before we emphasize personal men and women, we teach history as the science—the order and progress of life—and have a scientific method.

It may be objected that children cannot study in this way. In this brief moment I can only say that children are responsive to all their natural relationships. Nationality springs from the heart and soul of man. It belongs to the present as to the past; and children, by their questions, revealing their instincts and desires for unity and order, led me to my conclusions.

SCHOOL SAVINGS BANKS IN THE UNITED STATES.

BY J. H. THIRY OF LONG ISLAND CITY, N. Y.

IN the sessions of the World's Congress Auxiliary from July 17 to July 26, the whole question of the education of the young seems to have been quite fully presented, and yet among all things that have been said, not a word has been mentioned in relation to the practical lessons of thrift and economy that may be inculcated during the early training of children. The aim of this paper is to make up this deficiency.

In March, 1885, while I was the Commissioner of the Third Ward School of Long Island City, I introduced the European system of school savings banks as a trial to one school. That trial proved to be so complete a success that, one year later, about fifty other schools of different cities adopted the system with same results. Now, eight years later, what better evidence of the efficacy of the plan could be given than by laying before the public the following results of its application to three hundred and seventeen schools of seventy-eight cities and villages of America? From a register of 82,072 pupils in these three hundred and seventeen schools of twelve different States of the Union, 33,810 have saved \$345,-634.52, which is deposited in banks in the respective names of those 33,810 scholars. This large amount would have been partially expended otherwise for worthless things. We have in this wide domain a large number of criminals, and of paupers, insane, bedridden, homeless, aged, infirm people; we have also among us many that are needy, but who are not yet the wards of the public. With the increase of the population comes an increase in society's burden. The only way to put a check upon this alarming increase in our non-producing classes is to educate our children to become producers, contributors, and thrifty citizens. In our public schools we can supply the remedy.

If frugality in grown-up people repairs the waste of our resources, in little people it accomplishes comparatively more. We have already learned that the school savings bank, when introduced harmoniously, fuses with every one of the other branches of school work. With our modern civilization, this new education is received as the purest expression of the social maturity.

Our ancestors, in inaugurating and adopting the public school system, did not merely do so to prepare the children to buy, to sell, and to get gain in the active, material, business pursuits of life, but also to prepare them for good citizenship in the Republic. Animated with the same spirit, we must extend our school programme if we want to enable our children to face the difficulties of existence.

A really progressive civilization, such as ours, demands and prompts us

to centralize every element which tends to its onward march. Certainly the lessons of thrift and economy taught our children in the schools are considered one of the most active agents. It is hoped that the trial already so successfully made will serve as a foundation to carry out more completely the plans for which the introducer has so earnestly worked for the past nine years. The following question has been asked me by a few skeptics: "By teaching children to save their pennies, are you not teaching them to become misers?" My answer to such argument is, that every good thing is open to abuse; but should we, therefore, prohibit the child from praying to God for fear that he may become a bigot? Must we prevent the little girl from wishing to be loved for fear of her becoming a coquette?

The surrounding aspect of the introduction of the school savings bank system into three hundred and seventeen schools of our country has developed a great many good suggestions which have proved to be of incalculable value for the future welfare of our children and for society in general.

I conclude by saying that in this world we all build upon some one else's success. It is perfectly natural. Life is, after all, a sort of serious game of "*follow the leader*," and what is already done or achieved is quite a matter of course, that some one else tries. School savings banks of America have been built upon lines of their success in Europe.

Any information relating to the school savings bank system will be gladly furnished to any applicant.

SCHOOL SAVINGS BANKS IN FRANCE.

BY M. GUSTAVE SERRURIER, OF HAVRE, FRANCE.

Mr. President, Ladies and Gentlemen:—I shall be glad to give you an idea of the development of the school savings banks in France, an enterprise which is of interest for all nations, and which has been promoted by the well-known M. de Malarce. But I must restrict myself to telling you what has been done in the elementary school of which I am the principal. I will add that the beginning of the school savings bank dates back to March, 1876; that the school is situated in a workmen's district; and that it has eleven classes and an average of five hundred and sixty pupils.

In the first year I thought that it would be sufficient to receive the deposits only twice in the week, Monday and Friday; but I soon learned that the pupils, especially the younger ones, had not always patience enough to wait for these days, and spent their *sous* for trifles. Besides, as the number of the depositors increased rapidly, the receiving of the sums took

too much time for one day. So at the beginning of 1877 I received the deposits each day, fifteen minutes before the entrance of the class in the afternoon. I very soon saw the advantage of the daily receipts, and I have continued it ever since. By regularity and by perseverance one is enabled to teach the children order and economy.

I often recall to the children the purpose of the school savings bank and the simplicity of its functions, encouraging them not to waste their *sous*. I let them feel that the operations of the school savings bank do not deprive them of certain fancy articles which are suited to their age, but enable them to put aside things that are unnecessary and often injurious.

I try to keep away from the children the evil which egotism and avarice would work in their hearts; on the other side, I strive to make them comprehend the good results of a just and reasonable economy. As nothing impresses the mind of a child so much as example, I avail myself of all opportunities in the life of the pupil, in his behavior, his work, and even in his plays, to make him acquire little by little, and almost unconsciously, all the virtues which belong to his age, and which will form the foundation of a regular and honest existence, satisfying all his needs.

I have shown in different reports how great an influence the school savings banks have upon the behavior of the pupil. For this reason they ought to be encouraged and extended also in the poorest districts, because their principal purpose is to diminish misery by economy and foresight. Indeed, a pupil economical in his clothing and his school material acquires a spirit of order which is useful in his studies, while forming in him also the habit of saving.

I will add that I keep to the spirit of the work, and that I seek only its educational effects, without desiring big deposits. The payments are made often cent by cent; and if parents will contribute to the account of their children, I advise them to bring the deposits themselves to the great savings bank.

The means by which I try to make parents interested in the regular economical habits of their children are very simple: I receive all savings with the same interest, however small they be; I keep the individual papers in order, and I give back the depositors' books very regularly. The individual papers and the depositors' books serve to control the savings of the children in the families.

My deposits in the great savings banks are made weekly. I make them on Friday, and the books are given back to me the next Monday, before noon. Every Monday night they are distributed to the depositors, who keep them, so that the books are examined by the parents in a period of not more than eight days.

I must say that I always have been satisfied with the earnestness of the persons employed in the school savings bank, and also with the care which is given to the depositors' books.

I am happy and proud to add, that in all my operations since March, 1876, I have not had any mistake, even to a penny, nor the least complaint from the parents.

I could give you, ladies and gentlemen, my daily receipts since the beginning of the school savings bank, but I think you will be satisfied to see the following statements :

Total number of the depositing children :

In the years 1880, 789 ; 1885, 1,160 ; 1892, 1,607.

Sums put in by the depositing :

In the years 1880, \$12,032 ; 1885, \$21,400 ; 1892, \$28,663.

Total sum of the books delivered :

In the years 1880, 729 ; 1885, 1,056 ; 1892, 1,543.

These numbers are sufficient to give an idea of the sums which, without the institution of the school savings bank, would have been wasted in useless expenses.

If, now, in view of the above proportions, you calculate what may be saved in every country in comparison with its wealth, you will see easily that the school savings bank is an important thing, worthy of the greatest encouragement.

I am obliged to add, that the school savings bank is used in France in schools of every grade—infant schools and primary schools, elementary schools and colleges—and that it shows everywhere excellent results.

THE PUBLIC EDUCATIONAL SYSTEM OF SWEDEN.

BY N. G. W. LAGERSTEDT, PH.D., TEACHER AT THE SECONDARY SCHOOL OF ÖSTERMALM, STOCKHOLM, SWEDEN.

I WISH to call your attention to some points of the public educational system of my native country, Sweden. Since the small space of time naturally allotted to each speaker does not allow much more than a very brief sketch of the chief features of this system, I shall confine myself to such a sketch and to a few points of more general interest.

Education in Sweden is essentially a concern of the state. The state provides the principal pecuniary means for it from her treasury ; the local communities, however, support their *primary* schools with the aid of a subvention from the state. The government has the supervision and guidance of the lower as well as of the higher schools. A feature common to all the institutions of education is, that the instruction is essentially gratuitous. In the lower schools it is absolutely free. The pupils of the higher schools and the students of the universities have to pay some very small fees.

The public educational system of Sweden chiefly comprises three species

of institutions, namely: (1) *The primary, or lower, schools*, chiefly intended for the poorer classes. In these schools no foreign language is taught. (2) *The intermediate, or secondary, schools*, preparatory to university education. These schools, especially in their lower classes, have also the function of imparting the knowledge considered to be of use in practical life. In the lowest class of these schools one foreign language is taught. (3) *The universities*. The intermediate schools do not form a direct continuation of the primary schools, as is the case in the United States of America. In Sweden, as will be understood from what has just been mentioned, they have different aims. The higher classes of the primary school may be said to run parallel with the lower classes of the secondary. The question has been raised, however, of bringing the lower and secondary schools of our country into a closer connection, by cutting out one, two, or three of the lower classes of the secondary schools, and making the lower school preparatory to the secondary school, thus shortening up, but allowing it at the same time to pursue special aims in its highest classes. In this way the lower school would become the "common school" for all classes of the population, as is the case in this country, and the duplication and overlapping of the two grades would be abolished.

As for the result of the working of Sweden's *lower schools*, it may suffice to mention some figures that you may verify in the exhibit of the United States Bureau of Education in the government building of the World's Fair. The ratio of illiteracy in Sweden was in 1890 only four-tenths of one per cent. The lowest recorded percentage, that of Saxony, was two-tenths of one per cent. Sweden thus ranks among the countries occupying the best place in this respect. For the sake of comparison, I mention that the ratios of illiteracy in England and France are respectively nine and nine and one-half per cent.

In our primary schools coeducation of boys and girls is usual. It is only in some of the higher classes in larger towns that boys and girls are separately instructed. Teachers for these schools are trained in special schools called seminaries. A university education is not required of them. A large proportion of the teachers are women.

The curriculum of the *secondary or intermediate schools* comprises nine years. The boys (boys only—no girls—are admitted into these schools) must have turned nine years of age before entering. During the first three years all the boys are instructed on the same plan. As just mentioned, all the pupils are taught a foreign language from the first. This language is German, that being the only foreign language taught in these three years. At the beginning of the fourth year a bifurcation takes place. Some of the pupils begin to learn Latin, others English. The school is thus divided into a classical line and a modern line. Still, in all subjects other than Latin and English the instruction as a rule is common for the two following years. A third foreign language, French,

enters in the fifth year into the curriculum, both on the modern and the classical side. The last four years, from the sixth to the ninth, the pupils of the modern and classical lines are taught quite separately. At the beginning of the sixth year, the first of the four-year period just mentioned, a new division takes place on the classical side. Some of the boys thenceforth are taught Greek, others English. The classical line is thus divided into a full classical section and a half classical section. At the end of the curriculum of the intermediate schools a final examination takes place. This is called the maturity examination and is a rather serious ordeal. The boys who have belonged on the modern side—*i.e.*, have not studied Latin—must give evidence at this examination of greater knowledge in mathematics, natural sciences, and modern languages than the boys on the classical side.

The certificate or diploma of the maturity examination, successfully passed, confers the right of matriculation as a student of the university. It admits persons to such special schools as the military and forestry schools, and it qualifies for appointment to some of the lower positions in the government service. You will understand from this that the maturity examination is naturally considered a very important one.

I may add here that not all the secondary schools of Sweden are complete in their organization. Some of them have only the five lowest classes, or a still less number of classes. But the teaching in these classes agrees precisely with that of the corresponding classes of the complete secondary schools.

I come now to the third link of the public educational system of Sweden—the *universities*. The public universities of Sweden are two—the University of Upsala and the University of Lund. Besides these there is a faculty of medicine, or a “medical college,” in Stockholm. There are two other universities of Sweden, those of Stockholm and Göteborg. They are both only a few years old, and not yet public. They were founded and are maintained wholly by private means without aid from the State. But they will both, in all probability, soon be brought into the national system of education, in a way I shall shortly refer to. It is proper, therefore, that they be mentioned in this place.

Each of the old state universities—the universities of Upsala and Lund—comprises four faculties or departments: the faculties of theology, law, medicine, and philosophy. The faculty or department of philosophy is divided into two sections: one for literature, history, philosophy, philology, and allied branches of knowledge; the other for mathematics and the natural and physical sciences.

The original object and the chief object of a university is the promotion of knowledge. The teachers have to disclose and elucidate to the students the treasures of literature and the results of scientific investigation, as well as to direct the student's own study. It is also expected of professors

that they shall themselves contribute to the advancement of human knowledge by observation and research. The proficiency of students in Swedish universities is, as elsewhere, ascertained by examinations. These are of a twofold character, as I shall endeavor to explain.

The universities of Europe generally have been placed under supervision by the state. The state requires from its officials, and from private citizens proposing to enter certain important vocations—that of medicine, for instance—that they give evidence of possessing the knowledge and skill necessary to their special calling. Now, in some cases the university teaching and the ordinary university examinations have been considered as serving this additional public end. In other cases the universities have had to undertake the organization of courses of instruction required by the state for the purpose just mentioned, and the testing of proficiency therein by special examinations—civic or state examinations, as they may be called. This part of university work naturally has a less scientific character; it is more elementary, and the object of the examinations is to ascertain that the students have mastered certain fixed *pensa* of knowledge, rather than to ascertain the results of deep scientific study. The practical importance of this part of the universities' work may sometimes offer temptations to subordinate their strictly scientific work, and to make the higher examinations—the university examinations *proper*—by technicalities or regulation, too much like the civic or state examinations. It seems to me, however, that the present regulations and arrangements of the Swedish universities conspire in a very happy way to avoid this danger, as I hope to show you.

The faculties of theology and of law have two kinds of examinations: scientific examinations and civic examinations. Most of the students of theology and of law pass the civic examinations only, and thus become entitled to enter the service of the state as judges or other officials, or that of the state church as ecclesiastics. Some, however, of the law and theological students take the university examinations proper, success in which, in some cases, gives them a preference in the matter of appointments over those of their colleagues who have been content to take the civic examinations only.

The department of medicine offers examinations of the higher grade only. As may be inferred from this, the studies of the Swedish medical students are very thorough. Generally it takes them eight to ten years of hard work after matriculation to complete their university studies. There are two examinations in the faculty of medicine; the first is merely preparatory to the second.

The fourth of the faculties or departments is that of philosophy. Like the faculty of medicine, this faculty has no civic examinations. Neglecting some minor preparatory examinations that are passed by students wishing to enter the other departments, there are two examinations in the

faculty of philosophy ; namely, the examination for the rank of "candidate of philosophy," and that for "licentiate of philosophy." Let me add some particulars concerning these two examinations. To become a "candidate of philosophy" the aspirant must be examined in five different subjects at least. These subjects may be chosen quite freely among the branches of knowledge that belong to both sections of the department of philosophy. He must give proof of complete mastery of one of these subjects, or, if he so prefer, of excellent attainments in two.

If a "candidate of philosophy" wishes to pass the examination for the rank of licentiate, he must be examined in at least two branches of knowledge, quite freely chosen from the curriculum of the department, and he must give evidence that he has acquired a deeper and scientific knowledge of them. A student is, however, not required to take the examination as candidate of philosophy before the licentiate, but may proceed immediately to the latter degree, though, in this case, he has to give evidence of his scientific study of at least *three* sciences or branches of knowledge.

A licentiate of philosophy wishing to become a doctor of philosophy, in lieu of further examination has to publish a scientific treatise based on his own independent researches, and to defend this treatise publicly. If the thesis and the defense of it are considered to be satisfactory, the licentiate is admitted to the degree of Doctor of Philosophy.

Each of the two university examinations I have been treating of may be considered to demand, as a rule, three or four years of study in preparation.

There are two points to which I specially wish to direct attention. The first is the absolutely unlimited choice of studies open to the students within the limits of the department. It is quite lately that the examinations now in question have been so arranged as to permit such choice. Formerly some subjects were optional, others remaining compulsory, and there were rather intricate regulations with regard to the combination of subjects ; some might be combined, others not. The allowing of this unlimited choice of subjects has, in our country, generally been considered as a decided instance of progress, and I trust that it will prove of great use in advancing deeper and true scientific study.

The other point that I wish to accentuate is the regulation permitting students who have passed the entrance examination to the university without Latin, to be nevertheless admitted to the examinations for candidates and licentiates of philosophy, provided that the subjects they choose to be examined in are chiefly mathematics or natural sciences. With respect to this, the case is quite different from the state of things at the German universities, as many of you may have learned from the highly interesting address of Professor Watrots last week. But in our country Latin is still required of all who wish to pass other university examinations.

Most of the students who pass the examinations for candidate or licen-

tiate of philosophy afterward become teachers in the secondary schools. There are two classes of such teachers, a higher and a lower one. The former class chiefly instruct the senior students in the secondary schools; those belonging to the latter one teach the lower classes. The teachers of the higher order must be licentiates or doctors of philosophy; those of the lower order at least candidates. It is required, moreover, of both that they have passed their examinations in such a way that a certain number of the school subjects—four or five—shall have been included, all according to special regulations, which need not now be specified.

I beg to add a few words concerning the two youngest universities of Sweden, those of Stockholm and Göteborg. They will likely in a short time be allowed to hold examinations of the same kind as the old state universities, and students passing such examinations will have the same rights as if they had passed those of the old universities. No applicants but those who have passed the maturity examination will be admitted to these university examinations, just as is now the case in the other and older universities. There will, however, be an important difference between the old state universities and these new independent ones. While the former admit no other students than such as have passed the examination of maturity, the latter will also admit other students. You would call them in America, "special students." These must only give some proof—generally by a special examination—that they are capable of receiving the instruction in that subject or in those subjects which they propose to follow. After having completed such a special study at the university, the student, if he wishes so, is examined therein, and if successful receives a certificate of the result of his work. To this kind of examination, as a matter of course, every student of the universities may be admitted.

From what I have said it may be seen that it is the aim of the young universities to compete with the old ones as centers of higher scientific teaching, and at the same time to make their instruction and resources accessible to wider circles of students.

It will interest many of you to hear that women have been admitted to the Swedish universities for about twenty years. The number of students, however, has been and still is comparatively small, and only a very few—hardly ten—have left the universities after having passed a complete university course.

I should be pleased to furnish later, for publication, if desired, the statistical items necessary to complete this sketch of our Swedish education, particularly those relating to universities, of which I have spoken at greatest length. I may add that the students of Upsala may be estimated at eighteen hundred to two thousand; those of Lund at nine hundred to one thousand; those of Stockholm and Göteborg at about two hundred and one hundred respectively.

RELIGION IN THE SCHOOL.

BY DR. E. E. WHITE, OF COLUMBUS, OHIO.

It will be assumed in this discussion that moral character is the supreme test of the school, and, hence, that effective moral training is its central duty.

It will also be assumed that the right training of the will is the essential element in moral training, and that this involves the use of the highest motives that can be made effective. The higher the motives employed, the more valuable the resulting will-training.

The first fact to be considered is that the religious motives are not only the highest, but that they transcend all other motives in their influence on the will. It is the high sense of obligation which they inspire that most effectively frees the will from bondage to selfish impulses and desires, and makes its purposes imperative and abiding in conduct.

Moreover, the religious motives are the correlates of all high ethical motives, and these religious correlates quicken and energize the ethical feelings to which they are related ; and it may be added that for the great majority of men the religious feelings and sanctions are necessary to give desired efficiency to ethical motives. Indeed, we know of no thoughtful writer who denies this vital relation of religious sanctions to ethical motives and conduct.

These facts show why it is that religion has been the strongest influence in human conduct, and the mightiest of historic forces ; why the religious motives are fibred in modern civilization, and constitute, to most men, the most authoritative element of the moral law. There has never been a moral code that has secured the free obedience of men, that has not derived its highest authority from religion, and this is true in non-Christian as well as in Christian lands. Even the decay in Greek mythology was attended by a decline in Greek morals, such as they were. History fully warrants the statement that every attempt to ground moral obligation solely on human authority results in the weakening of the conscience, the enfeebling of the will, and the lowering of the moral life of the people. In the murky atmosphere of carnal and selfish appetites and desires, moral distinctions become obscured and confused ; virtue, for example, comes to be regarded as mere self-restraint, temperance as the prudent control of appetite, and honesty as merely the best policy.

It may be true that a philosophic basis of obligation can be found in man's moral nature, but the obvious fact of human experience is that the appeal of these human-born motives to the will is weak when unsupported by religious sanctions and influence. Their failure as barriers to vice is sad history.

It is thus seen that the practical question is not the origin of the moral law, but the vital relation of religion to moral obligation *in conduct*—the imperative need of religious sanctions and motives to sustain the authority of the moral law in human life.

We must not shut our eyes to the fact that an essential condition of free and willing obedience to law is reverence for its authority ; and this involves *a reverence for its source*. Back of the authority of the family, the school, the state—back even of the conscience—is the Supreme Being, the final source of moral obligation. Human law has its surest ascendancy over the heart and the will when it speaks, not simply as the voice of human nature, but by the supreme authority of the King of kings.

It follows from the above facts that effective moral training demands the vitalizing influence of religious sanctions and motives ; and it may be added that, in Christian civilizations, these sanctions and motives are derived from the religion of the Bible. They flow from a belief in a personal God, not only as Creator but as the Moral Ruler of the world ; in man's dependence on and accountability to God ; in man's obligation to love and serve Him ; and especially from a belief in a future life—in immortality. These primary religious beliefs are the sources of those motives that so strongly support and enforce moral obligation in Christian lands ; and we cannot suppress the fear that any system of moral training in school that shuts out all recognition of the Supreme Being and man's immortality will not bear the decisive test of character and life.

These religious motives pervade civil duties and obligations. Man's accountability to God is, for example, made the essential basis of the civil oath. How obviously is such a quickener of the conscience needed in moral training ! Take as an illustration the inspiring and restraining influence on human conduct that flows from the consciousness that there is in this universe an All-seeing Eye that is never closed ; that He who has said, "Thou shalt not," *sees* ! There is no such vanquisher of temptation as the clear consciousness, "Thou, God, seest me !" The shutting out of all consciousness of that Omniscient Eye from moral training in school would be like the shutting out of the light of the sun.

EXTENT AND PURPOSE OF RELIGION IN THE SCHOOL.

But to what extent and for what purpose can religious motives and sanctions be used in the public school ? The general answer to this question is, *So far as may be necessary to make moral training efficient, and for this purpose*.

The important fact to be kept in mind is that religion is not the end of the school, but only a means to an end ; that end, *effective moral training*. The function of the school is to prepare its pupils to live completely in the present life, and this involves right conduct in all personal, social,

and civil relations, and this involves moral character. Hence character is the end of school training ; religion only a means to this end.

This distinction between religion as an end and as a means of the school is not only important but fundamental. If religion be not the end of the school, it follows that the teaching of religion for religious ends is not its function. The school may use religion to enforce and strengthen moral obligation, just as the state uses it in administering the civil oath. The state does not recognize religion as its end, but it uses religion to secure the ends of civilization and freedom. "With the individual," says Dr. Seelye, "religion is primary as an end ; with the state it is only secondary and a means." It follows that neither the state nor the school is an agency for the advancement of religion as an end, but each may use religion for its own ends. In other words, while religion is not the end or function of the school, it may use those religious means which are necessary to secure effective moral training—the highest end and central duty of the school. To avoid this conclusion, those who take the extreme view that all religion must be excluded from the public school, consistently deny that moral training is its end or function ; but no objection can be urged against moral training in school *that does not hold against the school itself*.

On the contrary, the assumption that religion is the end of the school involves the making of religion its chief concern and function—the Franckean claim of the seventeenth century. Moreover, the duty to teach religion as an end involves the teaching of all religious truth essential to the welfare of the child's soul. No one who has any true conception of the importance of religion to the individual can be satisfied with anything less. It is obvious that such a test as this would condemn nearly all schools, even those under the immediate direction and supervision of the church. The religious instruction and exercises in these schools fall far short if religion be the end and duty of the school. There is an increasing recognition of the fact that the family, the church, the Sunday-school, and other voluntary agencies must be depended upon to give our youth a saving knowledge of religion.

Whatever may be true of schools under private management, the public school cannot make religion its end, or religious instruction and worship its necessary function. It must leave to other agencies that religious instruction and training that looks to the salvation of the soul.

We are now brought face to face with the practical question, *What religious means are needed to make moral training in the school efficient, and how may they be used?*

It has already been shown that the ethical motives need to be quickened and supported by religious influence, and this fact suggests that in some practical way the school must use those religious sanctions and motives which quicken the conscience, strengthen moral obligation, and influence the will. But these religious sanctions and motives flow from certain

primary religious beliefs, and so the question is narrowed to the best method of securing the needed presence and influence of these religious means, and this can only be determined by experience.

The American public school assumes that the family and the church have given some attention to the religious instruction of children, and that its pupils are not ignorant of the existence of God, of man's accountability to Him, and other primary religious beliefs. Hence, it provides no formal instruction in religious knowledge, but uses such knowledge for moral ends, just as the state uses religious sanctions for its ends. When, for example, a witness appears in court to give testimony, he is not formally instructed in religious beliefs or knowledge, but his conscience is quickened and its authority reinforced by an oath that appeals to the Omniscient Searcher of hearts. A similar but less formal use of the common sanctions of religion is made by the school to quicken the moral sense of its pupils, and the opportunities for such use of religious sanctions in school are numerous. No conscientious teacher is shut up to an assigned place, time, or manner.

These primary religious beliefs appear in the selections for reading, in the lessons in literature and history, in the music sung, etc., and often in most impressive forms. The writer once knew a principal who attempted to exclude religion from his school by marking for omission all selections and parts of selections in the reader that contained religious ideas and sentiments, thus despoiling the book of its literary treasures. But he stayed his hand when he came to the music-book, for the exclusion of religion from it would not only despoil it of the best classical music, but would also strike out all national airs, as "America," "Hail Columbia," "Star Spangled Banner," etc.

It is not possible to exclude religion from the school without mutilating its literature and doing violence to the religious nature of the pupils. Just as Christian civilization goes wherever modern commerce goes, so religion goes wherever Christian literature goes. It pervades the American school, thrives in its atmosphere, and is easily made a vital element in its moral life. The one essential condition to this end is a teacher whose mind and heart quickly respond to religious truth or motives. Experience has widely shown that needed religious influence may pervade a school in the absence of formal religious exercises, and it is a serious mistake to suppose that a school is "godless" because it makes no provision for technical instruction in religion. The needed measure of religious influence in a school may even be secured without the formal and stated reading of the Bible, there being other ways in which its vital influence may be brought to bear upon the conscience and heart of pupils, and one of these ways is its reverent recognition as the Word of God.

It must, however, be freely conceded that the effectiveness of religious sanctions for moral ends depends much on the presence of religious feel-

ing, this being specially true in childhood, and so it becomes desirable in moral training to quicken religious emotion. Experience shows that the most effective means of awakening religious feeling include the reverent reading of the Bible, prayer (oral or silent), and singing; and one or more of these exercises have long had a place in American schools, and they are still permitted in the great majority of these schools, and the singing of sacred songs is nowhere forbidden.

But whether desired religious feeling is awakened depends much on the spirit and manner in which the exercise is conducted. The reading of the Bible in a perfunctory and indifferent manner neither increases reverence for it in the pupils nor touches deeply their religious emotions. We have no hesitation in saying that it is much better to omit the exercise altogether than to conduct it in an irreverent manner. It must ever be kept in mind that what the school needs is not religious ceremony as such, but religious influence for moral ends.

We are, however, far from conceding that these religious exercises, when properly conducted, have little or no moral value. A writer who assumes to know intuitively what is true in the experience of others, declares that "no boy or girl ever received a religious impression of the least value in the devotional exercises in school"; but teachers who have thus impressed for good hundreds of pupils, know better, and hundreds of persons know that this was not true in their own experience as pupils. But all must concede that whatever may be the value of these religious exercises, it cannot be pleaded as an offset to a violation of the religious scruples of pupils, when this is the result.

It must, however, be admitted that it is easy to overestimate the moral influence of perfunctory religious exercises in school, and too much is often claimed for the moral value of the reciting of the catechism and other formal religious instruction. There is, certainly, no justification for the claim that the absence of such formal religious exercises in school leaves no basis for moral training.

What is needed, that religion may serve the ends of the school, is not the formal teaching of the Bible, or the catechism, or other technical religious instruction; not formal religious services or worship, but the wise and reverent use of those common religious sanctions and motives which quicken the conscience and enforce moral obligation. And these may be made effective in school by the use of means that give no offense to the religious scruples of pupils or patrons.

On the other hand, there is no justification of the demand that all religious truth and influence be excluded from the public school. The attempt to exorcise religion from the school would not only despoil its literature, its music, and its instruction, but would inevitably result in lowering its moral efficiency and seriously lessening its value to the pupils, to society, and to the state.

The writer is aware that theoretical objections can be urged against the practicability of the golden mean above suggested, but happily there is no such difficulty in the actual practice of thousands of American teachers. The great majority of American schools are pervaded by a vital religious influence without being sectarian, and this fact should be more universally recognized. At least three avenues must always remain open for the introduction of needed religious truth and sanctions into all our schools. These are Christian literature, sacred song, and Christian teachers; and against these there is no law.

DISCUSSION.

ZALMON RICHARDS, of Washington, D. C.: There are certain principles of right and wrong which everybody will acknowledge. These principles ought to be taught to our children. There are very few good people in the world who would say that there should be no moral teaching in the schools. There are people who object to the introduction of religious instruction, not exactly in the sense in which it has been brought out before us here to-day, but religious instruction as embracing denominationalism.

I believe in introducing moral instruction and making it a positive portion of the curriculum of every school in the land. I was pleased with the thought that has been expressed so well by the reader of the paper. We must recognize a supreme God everywhere, and I do not believe that we ought to have in any of our schools any instructor who will not feel at liberty to impress upon the mind of every pupil the idea that there is an All-seeing Eye; that that Eye is the eye of his Creator, who preserves him, who keeps him, and who will hold him accountable. Now, the moral virtues begin with the first—recognition of the God who made us.

GEORGE P. BROWN, Normal, Illinois, on the Separation of Religious and Moral Instruction, said: I do not favor making sharp distinctions between religious and moral instruction. I have never been able to determine for myself where morality ends or religion begins. There seems to be pretty good authority for declaring that pure and undefiled religion consists in visiting the fatherless and the widow in affliction and in being unspotted in our lives. This would seem to be a very fair definition of morality also. Indeed, the attempt to make sharp distinctions between morality and religion tends to formalism in both. Especially is this true in the early life of the religious consciousness. Now, the religious consciousness seems to differ from the moral consciousness in that there is involved in the former the consciousness of the relations of whatever is being considered to the Being of supreme worthiness as He is apprehended by the individual. This Being of supreme worthiness is to each one of us our highest ideal of worthiness, in so far as it is anything more than a mere verbal phrase. This ideal is a growing one in each of us. The soul as intellect seeks to discover the meaning of things, that is, to organize them into a unity of mutual relations. The Herbartians call this apperceiving. Suppose the object I am considering is apperceived with a limited number of others. Its meaning is expressed by the word *orange*. When its relations are extended we discover a unity which we call *fruit*. Extend the range of relations further, and the unity is *vegetable world*. Let the limits of the relations be carried out still further, and the meaning of my object becomes *product of nature*. Nature is the supreme being or source. Give to the apperceiving powers a wider range, and the meaning is expressed by "dependent beings." But "dependent being" is a meaningless term except as it is brought into the higher unity of independent or self-active being which it implies, whose source and cause is within itself—as the philosophers say, a being that is both subject and object, or subject-object. Now, when the intellect thus binds back its objects to this creative source and thus seeks to explain them, we call the intellect religious. Dr. Harris spoke of it the other day as the piety of the intellect. What I wish to call your attention to is the fact that the race once stopped with nature as the ultimate explanation of things, and before it reached that conception it stopped with a narrower one. Shall we say there was not as much piety of intellect in tracing the explanation of

things to nature in that former time, as there is now in tracing them to absolute self-activity?

So, too, there is the religious will. It is when we determine our conduct by its harmony with this highest ideal of worthiness that we have piety of will. And the soul as feeling may love, revere, and worship its highest ideal of worthiness. This is piety of feeling. The life is the unity of the activities of intellect, feeling, and will; or, in different words, the self realizes its life in the unity of these activities. When the self lives in the consciousness of the relation of all that is, to the supreme unity, or ideal, or source, the life is to that extent religious.

The proper teaching of every subject, as I see it, is a step toward the recognition of the supreme cause in that which is studied. It is an advance in the apprehension of what is truer and worthier and more to be revered. What is morality but the recognition of a worthier ideal that is to be realized in the life? Morality is the discharge of duty. Duty presupposes a higher ideal than what now exists in my life. I must make this ideal a reality by the deed. The essential difference between religion and morality is in the superior worthiness of the ideal. If what I have tried to show is true, then morality and religion name merely different degrees of worthiness of the ideals. We see, too, that a religious duty in one period in the development of the race may become a moral duty in a later period. I am of the opinion that every child in its growth is repeating the experience of the race. In a child-like way it regards its parents or teacher very much as it comes to regard its highest ideal in subsequent life. It seems to me, therefore, that if we think of a child's life as we ought, the question of whether moral instruction should be separated from religious instruction could never arise.

That it does arise with us is probably due to substituting theology for religion as a subject of instruction. Statements of doctrine and certain religious forms or sanctions are mistaken for religion. They become mere formalism to the child if it is required to learn them. A gentleman in another room a few days ago said that the attempt to teach children what they were not ready to receive produced intellectual dyspepsia. I fear that the teaching of doctrinal theology in the form commonly pursued in the teaching of so-called religion tends to produce religious dyspepsia in children. As those who teach come to know how children think and feel, with what ideas and ideals their world is filled, they will cease to discuss a question of this kind. They will find the moral and religious natures of the child so blended that it will not occur to them that the two should be dissected out and shut up in separate departments. They will see that the great thing to do is to stimulate the child's natural reverence for worthiness. When the feeling of reverence for what is conceived to be worthy is the habit of the mind, we may wait for time to develop the distinctively religious life in so far as it differs from the moral life.

ADAPTATION OF METHODS OF INSTRUCTION TO SPECIAL CONDITIONS OF THE CHILD.

THE CHAIRMAN, General Eaton, on introducing this subject, stated: "Professor Graham Bell is unable to be present to-day, to speak to you upon the necessary adaptation of methods of instruction to meet special conditions of the child in overcoming defects of hearing, speech, etc.

"Professor Bell's father and his grandfather made the human voice and hearing a special study. His father devised a plan for training in articulation, and for teaching the deaf and dumb to speak. Professor Graham Bell came to this country, and began to teach this subject. His study of the production of sound, and the means of hearing sound, led to the invention of the telephone.

"Frequently pupils fail to make progress in school because of the imperfect condition of one or more of the organs of sense. Many of these pupils might be greatly benefited and advanced if their teachers understood the nature of the defects, and the proper steps to be taken toward overcoming them.

"You know of Laura Bridgman, who could neither see, hear, nor speak. Her sense of feeling was the only perfect sense left her. She learned to read with her fingers, but she never learned to speak.

"In Tusculumbia, Alabama, there lived a little girl who lost her sight and her power of hearing, before she was two years old. She retained her power of feeling, and the use of the sense of smell and of touch. After a few years a statement of her case was sent to an institution in Boston, where similar defects received special attention. A young lady began, in that institution, a special course of study, with the purpose of teaching this little girl in Alabama. She commenced the instruction of her pupil just before she was seven years old; she is now thirteen. That teacher, Miss Sullivan, and her pupil, Helen Keller, are with us to-day; and they will be happy to show you some of the remarkable results of the adaptation of methods of instruction to defects under very difficult conditions.

"Miss Keller is a great reader, a ready writer, and has begun the organization of a public library for the community at her home.

"Miss Sullivan will show how she communicates with her pupil, and Helen Keller will speak to you."

Miss Sullivan said: "Miss Keller does not know what she is to do; I will let her read from my lips." Placing Helen's fingers upon her lips, Miss Sullivan repeated slowly: "Will you recite a few phrases of the 'Psalm of Life'?" Miss Keller answered promptly and distinctly, "Yes, with pleasure." Miss Sullivan then conducted her to the front of the platform, and Helen recited the lines quite distinctly.

The Chairman said: "You saw that Helen read from the lips of her teacher with her fingers. She has been trained to carefully observe by touch the movements of the lips in talking, and thus she understands what is said. She has also been taught to read movements of the hand.

In answer to an inquiry, "How was the first communication made to Miss Keller?" Miss Sullivan replied: "I did not begin by teaching her to speak. She had used a manual alphabet, and means of spelling by hand for three years before she learned to speak. I began by giving her an object—a doll that I had taken with me from Boston for the purpose. I thought I would begin with the word doll, for she seemed to be pleased with the doll. I took the doll up and made the motions d-o-l-l, in her hand, and showed her the doll. Then I got her to make those same motions herself. When she understood that word, I took other words, short ones of one syllable, nouns, one after the other. I worked with her in that way about sixteen days before she understood that everything had a name. That came to her suddenly. I had given her the word mug, and whenever I spelled mug to her she would raise the mug to her mouth as when drinking. It occurred to me that she was confusing the word mug with what the mug might contain. The impression of the contents was stronger to her mind than the vessel. So I took her out to the pump one day, and had her hold her mug under the spout; as the water gushed out I spelled water on my fingers, and she caught the idea, and raised herself up. The idea seemed to come to her suddenly, and she turned to the nurse, who was holding her little baby cousin, and put her hand on the baby with a little nervous action and said, "What is this?" I spelled the word baby, and then she dropped to the ground and patted it, and I gave the word ground. On the way back to the house she wanted a name for everything, and I gave it to her; and she never forgot a word that she learned that day.

The Chairman requested Miss Sullivan to name the books that Helen Keller has read, and to state those which she likes best.

"I will ask her by reading from my lips," said Miss Sullivan. "Will you tell our friends what books you have read, and which you like best?"

Helen read the question with her fingers on Miss Sullivan's lips, and answered:

"I have read many, many books, and it is rather hard to tell which books I like best. I think I like 'Little Lord Fauntleroy,' 'Little Women,' 'The Vicar of Wakefield,' and 'When the Ship Comes Home.'"

In reply to the question, "How does Miss Keller read?" she answered: "I read with my fingers, and teacher reads to me."

MISS SULLIVAN added: "She reads the raised letters herself, and I read the book."

The inquiry was made: "Does she ever pronounce the word when she is reading with her fingers?"

MISS SULLIVAN: "Yes, very often. She spent some time in Boston at the Institution for the Blind, and in the evening the blind children would gather around her there while this deaf and blind child read to them for their pleasure."

Question: "Has she sense of the vibrations of music?"

MISS SULLIVAN: "Yes."

Question: "How did she gain the idea of goodness?"

MISS SULLIVAN: "It is very difficult to explain. She learned such words as goodness, beautiful, etc., chiefly by the constant use and repetition of the word when the occasion required that word. If she brought in a beautiful flower, I would say to her, 'It is beautiful.' Of something that was disagreeable or unpleasant I would use a corresponding term, when I was positive that the object must appear so to her. I knew that the rose, with its beautiful petals, was pleasant to the sense of touch. It pleased her with its fragrance, and I would say, 'It is beautiful.' Afterwards she would apply the word when something that especially pleased her came up."

Question: "How long has she framed her own sentences and expressed her own ideas?"

MISS SULLIVAN: "She began immediately. Perhaps in three weeks she was making sentences."

Question: "I should think it would have taken her longer to get hold of verbs than of nouns. Did it?"

MISS SULLIVAN: "No; verbs are very simple when the action can be illustrated. She began with such verbs as sit and stand, walk and run, and illustrated them herself. Those words were very easy to teach. Prepositions and words like 'if' and 'when' are the most difficult, but she learned them by constant repetition."

Question: "I notice, when you address her, you try to talk in a perfectly natural manner; but when you commenced to instruct her you had to greatly exaggerate the motion of the lips, did you not?"

MISS SULLIVAN: "At first we did. I think now it was a mistake. I think the natural movement of the mouth would have been a great deal better. I think her speech would be more perfect if she had followed the natural motions of the lips instead of an exaggerated motion. This peculiar voice is probably due to that very thing. The mouth of her instructor was strained at the time, and so she assumed those stiff attitudes. The tongue moves mechanically instead of moving naturally."

Question: "Is her vocabulary limited still, or does she have a general one?"

MISS SULLIVAN: "She has a very large vocabulary. Very few people use the language as freely as she does in her conversation. She uses the language of books."

THE CHAIRMAN: "I have no doubt but that I express the sentiments of all present when I tender to Miss Sullivan and to Helen Keller your hearty thanks."

MISS SULLIVAN: "I am very glad indeed that we came here, and very glad to have you see this little girl, for her disposition is most beautiful. I have been with her seven years. From the first I have never found her impatient or angry, or to shrink from any living thing."

*SHOULD RURAL SCHOOLS INTRODUCE AGRICULTURE,
CHEMISTRY, AGRICULTURAL BOTANY OR ARBORI-
CULTURE?*

BY ERGRAFF DE KOVALEVSKY, DELEGATE OF THE MINISTER OF PUBLIC
INSTRUCTION OF RUSSIA.

THE great agricultural crisis of these last years has forced the European governments to support the agriculturists by every means, and to propagate right notions as to gardening and farming among the rural populations. The elementary schools have taken part too in this movement, and in certain countries instruction in agriculture has been introduced in the course of the rural schools.

In Europe there are several types of primary elementary schools, which are distinguished from each other by the number of and duration of the courses. In the most of them the instruction continues from three to four years; these are the schools with an elementary and middle course. Their purpose is not to teach the pupils an independent branch of any science, considering that there are admitted only children from seven to eleven years of age; it is enough that the pupil leaving the establishment is able to read well, to write without too many mistakes, and to perform the four operations of arithmetic. In the other elementary schools, with a course of five to six years, the pupils receive during the last two years—that is, in the superior course—some notions of geometry, history, and geography; to these are added lessons in drawing, gymnastics, singing, and, at present, manual training. So there remain, at the utmost, two hours weekly for instruction in natural science and agriculture.

We will only examine the primary elementary schools, without touching the superior primary schools. Several governments have introduced agriculture in the programme of the primary schools as an obligatory subject. This information often gives very small results, which is in part due to this, that the instructors, too little familiar with their subject, give the pupils little hand-books or agricultural catechisms, which they learn almost by heart. This kind of instruction only overburdens the memory of the children without contributing to their intellectual development; so this method is anti-pedagogic. Reading the description of the tools and agricultural machines of rural operations, the enumerations of all sorts of varieties of plants and of animals, notions about zoölogy, in short, descriptions of objects or of agricultural processes which the pupils have no opportunity to see themselves—this is only to them a combination of words and numbers which does not leave behind lasting traces.

What now must the system of the agricultural teaching in the element-

any schools be? Could we not combine it with the natural sciences, and what branch of the latter might be introduced in the school?

It is evident, that there must be a close connection between agriculture and the agricultural sciences; nevertheless the latter cannot form an independent course in the elementary schools. Experience shows clearly that the knowledge taken from books is not valuable for the children; it must be connected with practical and experimental instruction. This instruction should be limited to giving the pupils the first notions of physical and natural sciences, combined with agriculture, or only notions about agriculture. It is the task of the teacher to choose that branch which is the most suitable for the locality and the needs of the population; many understand very well how to use the two methods mentioned above. An experienced teacher takes as the subject for lessons, compositions, dictations, etc., agricultural topics, and uses every occasion which is offered, in order to teach the children by the way, so to speak, elementary, indispensable truth. In one or two pages of these lectures in class, well chosen and repeated systematically, the pupils find answers to very important questions.

In some schools of France the manual training is connected closely with the agricultural instruction; the pupils themselves make little objects in wood—tools which are necessary in practice, and agricultural machines in miniature. This is not all; the tools, the planks, etc., may serve also as models for the drawing exercises.

The teacher will also make use of the walks of the pupils, the rural work, local meetings, expositions, herbariums, collections of insects, and he will introduce agricultural principles in the general instruction, and contribute considerably to the intellectual development of the pupils; on their part he demands diligent and conscientious work and great attention to personal observations. Practical work in the flower and kitchen gardens is also a very efficient means of reaching the desired end.

Sometimes if the ground near the school is large enough, the teacher gives every one of the pupils a small plot upon which he cultivates vegetables, flowers, and fruit trees. The teacher directs them in their tasks, and interests them by conversations and explanatory lectures. At the same time he attracts their attention to the different appearances of nature.

Gardening, horticulture, the culture of trees and forests, apiculture and silk culture, the culture of hops, and so on, have an importance for those countries in which, as in Russia, for instance, the vacations do not last less than three or four months. Outside of this country, in the regions of extensive fertile lands and an ignorant population, such teachers may be of great service. In Russia, in Austria-Hungary, and in other countries we see that the people who formerly did not know this or that branch of agriculture, now cultivate the land with great success. Thanks to the

impulse from the schools in Germany, arboriculture has been practiced for a long time. In the elementary schools this branch, without being obligatory, may be recommended the more, since all teachers coming from seminaries and normal schools possess gardens, which furnish the necessary means for the instruction in horticulture. School gardens are found in great number at the present time; for instance, France possesses nearly fifty thousand; Russia, eighteen thousand; Austria, nine thousand; Belgium, three thousand five hundred; Switzerland, two thousand five hundred.

In the schools with a superior course, instruction in physical and natural sciences related to agriculture may be introduced, as is done in several countries. The best method for such instruction is that of the celebrated French pedagogue René Leblanc—the experimental method. The adherents of this method say, that the teacher, without going beyond his province, should restrain himself to scientific, fundamental notions that are generally not known to farmers, illustrating them by means of easy experiments and demonstrations. The things observed, if they are to be well understood, must be simple, as must be also the practical experiments. To be generalized, they must be made with familiar objects which one easily finds everywhere. Lamp-shades, old bottles, corks, pieces of wood and iron wire—this is the indispensable material for most experiments. For the experimental culture one must have some flower-pots and a little mineral fat. There may be added some pipes of glass and chemical materials which do not cost much.

By means of fifty simple experiments, according to the system of M. Leblanc, the pupils easily acquire in the course of two years invaluable knowledge; besides, this method develops in them the spirit of observation and accustoms them to independent work. The pupils see the whole life of a plant displayed before their eyes from the germination to the flower and fruit.

In the winter season the pupils are not occupied in practical agriculture. The teacher, having explained to them the nature and the germination of the seed, passes over to the first principles of chemistry and physics, and explains the properties of the water and the air and the integral parts of these elements which enter into the composition of the plants. Finally, he speaks of combustion, the principal kinds of soil, and the different fats.

The theoretical knowledge which is given to them in this part of the course, is always based upon experiments suited to the age of the children who take part themselves in all kinds of manipulations.

In spring, when the experimental culture begins (of wheat, corn, beans, hemp), the pupils listen to the explanations of the process of growth in the most common vegetables, grafting, the necessity of the distribution of crops, etc.

In the course of the second year the pupils are obliged to repeat all that has been learned in the first year, together with some notions of the

nature of and aid of domestic animals. This is the maximum that can be taught in an elementary school.

Professor Grandeau rightly observes: "When the teacher succeeds in imparting to the greatest number of our children enough elementary knowledge to enable them later to read with profit a book of agricultural science, and when he awakes in them the taste for farming life and reluctance to leave it in order to become employees of any office, then he will have done an immense service to agriculture."

M. Leblanc adds, on his side: "The teacher well performs his task if he succeeds in making the scientific expressions in current use convey precise meaning to his pupils; if the brighter ones among them furnish good recruits for the practical schools of agriculture."

To recapitulate what we have said above:

(1) The instruction in the rural schools can and should have an agricultural bearing.

(2) Independent and dogmatic courses of agriculture, or of any branch whatever of physical and natural sciences, are not suited to the primary elementary schools.

(3) Agricultural instruction for children from seven to eleven years (elementary and middle course) must be restricted to the first notions of the life of vegetables, and to very elementary practical knowledge.

(4) This instruction can be given by means of different school exercises, such as oral lectures, recitations, compositions, dictations, problems, and drawings.

(5) In the superior course (ages eleven to thirteen years) the occasional instruction can be given in a more methodical way, and, if the time admits, it may be completed by reviews; the agricultural studies must be closely combined with the instruction in physical and natural sciences.

(6) The notions given in the primary school must be illustrated by objects of the school museums, and must be completed by excursions into the fields, visits to farms, and by work in the school garden. In the superior course, the elementary principles of physical and natural sciences relating to agriculture must be based as much as possible upon a series of experiments not very complicated, and upon interesting demonstrations of the growth of plants.

(7) The students of the seminaries and normal schools should receive instruction which will enable them to give lessons under the conditions indicated in the above paragraphs.

CONFUCIUS AND HIS EDUCATIONAL IDEAS.

BY DR. HIDESABURO EUDO, DELEGATE FROM THE ROYAL EDUCATIONAL SOCIETY OF JAPAN.

[Translation from his notes in German.]

Ladies and Gentlemen :—I come from Japan, an old country, and in this new and flourishing country I have the honor to speak about an old one. Old as it is, its civilization is yet young. We expect you to guide and teach us in our civilization. I am sorry to say that I cannot speak in English on my subject. It is too difficult for me. Japanese is too strange for you. So I will speak in German. I think it is not so strange for you as Japanese. To avoid confusion I will read from my notes.

Who was Confucius, about whom I shall speak? He was a great philosopher of the Orient who has been revered as a teacher of virtue by unnumbered millions during a period of more than two thousand years.

Professor v. d. Gabelentz gives this opinion about him: "Quite a unique position is held by Confucius, who was a teacher of his people unlike any other; who became and remained, so to speak, a ruler of his people—a place unique not only in the history of philosophy, but also in the history of humanity. For no other man has embodied in his own person his whole nationality and all that is eternal in it, as he did. If we would measure the greatness of a historical personality, I see only one standard that can be used—the duration, extent, and intensity of his influence.

"According to this standard Confucius was one of the greatest men; for at this very time, after more than two thousand years, the moral, social, and political life of almost a third of mankind is under the full influence of his spirit."

This judgment shows the whole greatness of Confucius. But what greatness is, it is difficult to determine; some people see only a part of it, but, nevertheless, judge of the whole. I will quote here several judgments in order to get, by comparing them, as near as possible to the truth.

One of the best pupils of Confucius, one who was intimately connected with him for a long time and by the strongest bonds, and who knew him the best, Tseu-Kung, says: "Confucius is gentle, just, affable, temperate, and modest." Mencius once quoted Yeu-yo's opinion concerning Confucius: "As the miraculous kilin belongs to the quadrupeds, the phoenix to the birds, large mountains are only a kind of hill, and rivers and oceans kinds of lakes—so the great sage belongs also to mankind, but how much is he elevated above all men! Since the heavens and the earth were created, another man has not arisen like Confucius!" A great historian, Ise-ma-tsien, says of Confucius: "There have been rulers who have

received the surname 'the wise,' and who were much celebrated in their times, but after their death they were quickly forgotten. But Confucius, although not born of a prominent family, has been esteemed by all learned men living after him as a source of wisdom. Everybody from the emperor to the lowest citizen honors him."

These are the opinions of Chinese authorities. For the sake of comparison the opinions of men of other nations should be considered.

A Japanese scholar, Seigan Yanana, says: "The words of Confucius are as mild as the horn of kilin, which hurts nobody, but his thoughts are steadfast and powerful, and nobody can resist his words; even the lion, with its horrible claws, will bend its head before Confucius."

Martin Haug writes: "The opinion passed by the late Chinese missionary Gützlaff upon Confucius, which was published some years ago in Germany, is almost a libel. Gützlaff describes him as a man who deals in wisdom and sells his goods to him who offers the highest price. But every attentive, impartial reader of the 'Analecta,' in which his character is put into the proper light, will immediately see how inexcusable it is to attribute such base motives to the actions of the sage. Confucius was, at any rate, a man entirely honorable and sincere, and possessed of a firm and steady character."

The English scholar, Professor Legge, says: "Confucius is thus, in the Empire of China, the one man by whom all possible lessons of social virtue and political wisdom are taught."

Professor Dr. Douglas says: "That four Chinese emperors [who took Confucius as a model] had at different times restored the empire from a state of anarchy to a condition of peace and tranquillity by the force of their examples and the influence of their teachings; and believing themselves to have a heaven-sent mission to repeat their reforms, they labored day and night to impress on their hardened contemporaries the evils of their ways."

G. Alexander: "He has no claim to be considered in common with Zoroaster, Buddha, or Mahomet, for each and all these were, in a greater or less degree, destroyers of the social and religious systems which preceded their advent, and the founders of the new ones upon their ruins; whilst Confucius sought neither to destroy nor to create, but to preserve and restore. He was no law-giver like Moses; Laoutze stands unquestionably nearer to Pythagoras than he does; and the comparison which might be drawn between him and Plato or Socrates, could only be within very narrow limits."

These opinions of distinguished scholars will serve, I hope, to set forth the sublime philosopher in strong outlines.

PEDAGOGICAL PRINCIPLES OF CONFUCIUS.

As Confucius has written no special pedagogical work, I am obliged to draw chiefly from the four books, the five classics, and "Kia-yu," and

gather the passages of pedagogical significance appearing here and there, scattered through these works, in order to throw the right light upon his principles.

Liadner writes, in his "Encyclopædical Compendium of Pedagogy": "The educational system of Confucius is comprehended in the so-called House Treasure;" but as he indicates no source of his statement, it is altogether untenable.

Carl Schmidt has also mentioned the House Treasure in his "History of Pedagogics," but without saying that its contents are the system of Confucius.

I think I am right in saying, that, in spite of the many books written about Confucius in the Orient and Occident, no one has distinctly explained his pedagogics.

Before I begin my further task, it is necessary to state the views of Confucius about human nature. Philosophers who lived shortly after Confucius have held very different opinions upon this subject.

Mencius says: "Man is good by nature."

Suntseu: "Man is bad by nature."

Yan-yeu: "Man is both by nature; good and bad principles are combined in him."

But if *Tseu-kung* says that he never heard Confucius speak about human nature and heaven; it may be supposed, indeed, that the sage very seldom dwelt upon these questions. In *Lun-yu* it is said: "When man is born, he is sincere," and likewise in *Ta-hio*: "One must keep alive the inborn virtues." So *Confucius* believes that man is good by nature.

Confucius's grandson, *Tseu-see*, an eager adherent of his doctrine, says: "Human nature is determined by the heavens, and to follow the way of nature is the first of all doctrines." And also *Mencius*, who again learned from *Tseu-see*, says: "Human nature is good."

Confucius, however, knew very well that man can be developed in different ways by education; it is that which makes the great differences among men.

After this short preface I now shall try to find out the aim of Confucius's education.

MORAL EDUCATION.

Confucius says to his pupil *Tseng-tsen*: "Piety is the foundation and the basis of a good education." Of course this piety is not restricted to the relation of parents to the children, to the life in the house. Outside the house, also, children and all younger persons must be respectful towards elder persons; they must hate nobody, but especially be on friendly terms with the philanthropists; besides, everybody must strive to obtain knowledge and skill.

From this it can be seen that Confucius considered virtue first; in

agreement with that a Japanese scholar, Minsan, says : "The doctrine of Confucius is not based upon any literary fame, but upon acquiring virtue."

Not only did Confucius consider virtue the first principle, but we find the same view in modern pedagogues, as, for instance, in Locke, Greiling, Herbart, and others.

If we ask what Confucius means by virtue, piety, as mentioned above, is the most important with him. From "Lun-yu" it appears that Confucius taught many things, as knowledge, decency, honesty, and faithfulness. In another place Confucius says : "Always practice truth and honesty." Thus it appears that truth and honesty are additional virtues with Confucius.

His pupil Tseu-Kung once asks if there be any word which could be considered as a moral principle for the whole life. Confucius answered : "To place one's self into the same situation as others ;" and he adds : "What you do not desire to be done to you, that you may do to no other one."

Also Tseng-tseu confirms this by saying : "The doctrine of Confucius commends honesty and the putting one's self into the situation of others."

By the latter he sees that Confucius means the practice of humanity. This principle was greatly esteemed by Confucius ; it is very often mentioned and emphatically enforced. In addition there are mentioned "sincerity, liberality, reverence, humility, fortitude, willingness, respect towards the elder brother, loyalty to friends, magnanimity." This very classification of virtues can be regarded as a proof that Confucius placed great value upon the establishment of morality.

INTELLECTUAL EDUCATION.

As Confucius laid the greatest stress upon moral education, let us see what he thought about intellectual education. In Ta-hio we read : "The first step toward the growth and increase of the inborn gifts of the mind, consists in obliging one to acquire a distinct knowledge of things."

More emphatically it is said in Lun-yu : "The most perfect man must acquire a comprehensive knowledge ;" and in a third place, where Confucius well recommends to his pupils the study of Shi-king (poems), he praises this among other merits, that from them knowledge of many animals and plants is to be gained.

PHYSICAL EDUCATION.

In Lun-yu it is said : "If cooked rice has become sour, or fish has become soft, Confucius does not eat such food ; also not if the meat has a bad color or disagreeable smell, or has not been entirely cooked, or if unripe fruits are offered to him. Wine he drinks as much as he is able without becoming intoxicated. But he does not drink wine nor eat

meat which have been bought on the street, because he is afraid that they might be unclean; and as in drinking, so in eating, he is always temperate."

How scrupulous he was about these things the following may show: Ki-hao-tseu had sent medicine to him, and Confucius had accepted it gratefully, but had not taken it, because he did not know exactly the contents.

In general, the educational method of Confucius did not consist only in giving his pupils theoretical explanations, but also and especially in teaching them by his own actions and examples.

Thus the customs of Confucius, mentioned before, had also the effect to commend to his pupils the care of their diet. That he laid stress upon this, can be read in Hiao-king, where Confucius is said to have declared: "The body with skin and hairs we have received from our parents; to preserve it is therefore a duty of piety." In the same sense he is said to have told Men-wu-pe: "To be pious means to keep one's body healthy, in order that the parents, growing old, may not be consumed by sorrow for the life of sick children."

Concerning real gymnastics, shooting with bow and arrows, and chariot-eering, which belonged also among the objects of education according to Confucius, might have had still another purpose, but they served especially for strengthening the body.

EDUCATION OF GIRLS.

Before I treat of the method of education of Confucius, I will add something about his views of the education of girls. It seems to me that Confucius taught about the female virtues, "coyness, taciturnity, obedience, lack of jealousy," but nothing about the method and the departments of instruction appropriate for girls.

He once says to Ngai-kung: "The woman must follow the word of man, and work for men; she has no right to work in an independent way; on the contrary, there are three kinds of dependency for women: when she is a girl, she must follow her father or her elder brother; when she is married, she must obey her husband; and when the husband has died, she must follow her son. Woman, therefore, never has to act independently, and her sphere is restricted to her room, and in that to prepare good food and beverages."

From this is to be seen that Confucius estimates obedience as the first duty of woman, but lays little stress upon her talents and knowledge. He even seems to doubt her vocation as an educator of children. At least he once says: "Tseu-tshan is like a mother, who is able to nourish children, but not to educate them."

After this low estimate of girls and mothers, we do not wonder that he said nothing about female education. There is a legend that Ta-yam, the mother of the old King Wan, had begun the education already with the

embryonic life of her child ; such a mother would have certainly corresponded to the views of Confucius.

This contempt and neglect of female education is a deplorable lack in the system of Confucius.

METHOD OF EDUCATION.

Confucius says : " I shall not teach before the scholars desire to know something, and I do not help before the scholars need my help ; if of the four corners of a thing I have shown and explained one corner, and the scholars do not find for themselves the three others, I do not explain further."

This shows that Confucius laid much stress upon the self-activity of the scholars ; in so ancient a time (2,000 years ago) he used already the inventive method.

Furthermore, he says : " If one learns only by memory, and does not think, all remains dark."

But the teacher remains always a guide ; he is indeed the leader ; and if Yen-yen says : " The kind master leads me step by step," that means : " Leading upward from the easy things to the difficult ones."

Confucius gave different answers to the questions which several persons asked him about humanity. He taught them humanity by different methods, a proof that he had regard for the faculties and talents of everyone. He also used comparison in a clever manner for purposes of education.

When Tseu-kung asked Confucius how humanity could be exercised practically, he replied : " If a mechanic will perform his task well, he is forced to sharpen well his tools. In which situation you may be, take wise men as guides, and make friendship with virtuous people."

Numerous incidents in the life of Confucius prove that he used every occasion offering itself for the education of his pupils. Once he saw a sparrow catcher catching only young sparrows with beaks still yellow ; then he asked him : " Why do you not catch old sparrows ?"

The man replied : " The old sparrow is very cunning, hence it is difficult to catch him ; but the young sparrow is only greedy to seek food, and so it is easy to catch him. If young sparrows would follow the old ones, then it would be difficult to catch them ; but if old sparrows follow the young ones, then they can be caught." Then Confucius addressed his pupils : " Did you hear ? If the sparrow is cautious, he avoids destruction ; but if he indulges in greediness, he forgets danger. Luck and ill-luck of the sparrow depend upon whom he follows. Therefore, wise men are cautious in choosing acquaintances. And if one follows the prudent thoughts of elder people, he is protected against every danger ; but if one follows the ideas of inexperienced youth, he easily runs into dangers."

*THE USE OF MAGIC LANTERNS IN SCHOOLS.**

BY GUSTAVE SERRURIER, OF HAVRE, FRANCE.

I SHALL not dwell upon the use of luminous projections in the scientific courses of universities and academies, but show you simply how in France the magic lantern has been introduced into the primary school, and has become a means of popular instruction.

In April, 1880, a conference of French teachers was organized by the Minister of Public Instruction, for the purpose of showing the use that might be made of the magic lantern in elementary education.

This effort had an immediate practical outcome. In December following, a society was formed at Havre for the avowed purpose of bringing about the general adoption of the use of the magic lantern as an aid in teaching by observation. This method of instruction was introduced in Havre in the higher courses of the primary schools. All the pupils of these classes (boys and girls), to the number of twelve hundred, were assembled in two great halls twice a week for this exercise.

The subjects treated were history, geography, travels, physical and natural science. M. F. Buisson, the Director-General of Primary Instruction, testified that the notes made by the scholars showed good results and great attention on their part. The teachers gained great freedom in speaking in public, while the pupils, captivated with the views presented, profited on their part by all the explanations offered without any of the customary distractions.

Two years later every school in Havre was supplied with the necessary apparatus, and thus the use of the magic lantern was extended without any disarrangement of the classes.

This society did not stop with the work in the schools; it organized at the same time public conferences for families subscribing to the funds. These exercises, conducted by men of ability, were very successful, and also brought in money, thus helping the society to extend the work, not only in the schools and in important centers, but even into the neighboring districts. To achieve this result the society of Havre exerted itself to perfect the apparatus, and to increase its collection of views in order to meet all needs.

The school apparatus recommended by the society costs only \$24. A petroleum lamp is used; this is simple and practical. It serves for an audience of from two to three hundred persons. This is the apparatus generally used in the country. The city societies nearly always employ a double apparatus suited to halls for from eight hundred to two thousand

* This paper was read in French, and translated for publication.

persons. This costs \$74, and is lighted by an oxyhydrogen lamp. It has the advantage of presenting the views without interruption and with double effect, and can be used by day as well as by night.

The Havre society has a triple apparatus with which scientific experiments can be illustrated and natural phenomena shown, such as volcanic eruptions, active geysers, etc. The price of this is \$240.

The Havre society has for its object the diffusion of knowledge by means of the magic lantern in connection both with school exercises and with popular lectures. All the conferences are free, and the views, which number eight thousand, are loaned gratuitously.

The society fosters the work both in France and in foreign countries. In 1891 M. Buisson was delegated by the Minister of Public Instruction to preside over the annual distribution of prizes. This festival was a veritable demonstration in favor of instruction by the magic lantern. It is a means of moral influence, for when the teacher sets up the apparatus the school is too small for the company and the saloon is deserted. The views are chosen also with a purpose of giving the scholars ideas of the good, the true, and the beautiful.

The society has supporters among all the friends of public instruction, teachers, professors, inspectors, pastors, etc. In March, 1893, it had branches in sixty-two departments of France and in nearly all the French colonies. In foreign countries, also, several societies have been created under the auspices of that at Havre—in Belgium, in Switzerland, in Russia, in Austria, and even in the New World, in Louisiana and in the Argentine Republic.

In March last the number of free loans from the collections were four thousand one hundred and forty, each set comprising, on an average, twenty-five views. The annual contributions from members are, at the minimum, ten francs. The amount which had been received by the president of the society, M. H. Jardin, in subscriptions and in dues, up to December 31, 1892, was sixty-four thousand francs (about \$12,800).

SCHOOLS FOR NEGLECTED CHILDREN.

BY JAMES STORMONT SMALL, TRUANT INSPECTOR, AUCKLAND, NEW ZEALAND.

To attain a perfect system of education is a very difficult matter when the incongruous elements to be dealt with are considered, and no more difficult problem presents itself than that of the best course to adopt with regard to the education of the children of city slums; and yet a thoroughly workable and successful system would prove the foundation of a noble structure.

When dealing with these neglected children there are two distinct classes to be considered ; namely, those of the very poor but honest, and those of the careless, dissolute, and criminal. With respect to the former, many young children, instead of attending school, are employed at various occupations wherein the school hours are taken up.

Few will not admit that these young ones are entitled to the advantages of such education as is provided from the national funds for all.

But humanity steps in and says: "These children are helps to their parents, who depend on them to work for bread for the support of the family, and if they are deprived of the aid of these child-workers, how is the necessary subsistence to be procured?"

To say that it is right that parents should, under any circumstances, be dependent on their young and tender offspring for food amounts to advocating a reversal of natural laws, which throughout the animal kingdom demand that the old must provide for its young ; and even in the lower orders of life, where the young are so constituted to look after themselves, in no case do the old rely upon their own immature progeny as food procurers.

When law-makers thoroughly grasp this position, and without exception apply it, then the unnatural claim of parents to ruin their children forever, to minister to present personal needs, will become a thing of the past.

When it has been ascertained beyond doubt that parents cannot feed and clothe the children whom the law compels them to send to school, then both of these necessities should be provided by the state ; for little education can be imparted to small, shivering bodies with hungry stomachs.

But to ask that national funds for educational purposes should be used to subsidize parents for being deprived of services to which they have no right—to grant such a request would tend to increase paupers and turn educational departments into charitable aid boards.

Surely deserving cases could be left to the benevolently disposed, and societies of that kind.

For several years the writer has studied from exceptional vantage ground the application of compulsory educational laws, and after much experience and careful consideration has come to the conclusion that a large number of the parents appreciate education too highly to be a source of trouble in procuring regular attendance of their children at schools, so that stringent attendance measures, although applicable to all, do not affect these, as they already do what is required, without coercion ; but with respect to others, they more or less require constant watching. Every sort of pretext is used to detain children from school, yet nearly all express the opinion that great stringency should be used in compelling their neighbors' children to be sent more regularly. This sort of thing varies in degree until the lower stratum is reached, when nothing short of fines and imprisonment of parents will obtain any attendance whatever.

Just here the writer would mention that in New Zealand he, as truant inspector and attendance officer, has, amongst a number of elementary public schools under his supervision, one school in the city of Auckland which specially deals with the children of the poorest and lowest classes. It is a small building, therefore the roll number is under two hundred, but the ordinary daily attendance is about one hundred and seventy boys and girls. The parents receive no aid in lieu of the services of their children, nor are the pupils supplied with food or clothes. Sometimes, in exceptional cases, the head master privately will give a meal to one or more, when he is satisfied it is needed, and sometimes persons will donate some clothing, which is presented to the most ragged in a quiet and kind manner.

Self-respect is encouraged in the scholars, and every opportunity is given them which is consistent with reasonable attendance to earn money to keep their parents. The dinner-time is curtailed and the school dismissed earlier in the afternoon, so that the newspaper boys may be in time to sell the evening papers, and others to attend to various offices required by their parents. No child is punished for coming late who has a genuine note to show that he or she was detained for some necessary purpose. And yet with all these drawbacks, this school, at the annual examinations, compares favorably with other schools. All school necessities are supplied free, also the books, when the parent cannot pay for the same. It has been remarked that the pupils of this school are more respectful and polite than many of the scholars of the other schools.

No parents are compelled to send their children to this particular school; it is quite a voluntary matter. All are compelled to send to some school; therefore a large number of the worst of this class elect to send to other schools, and it requires frequent legal proceedings to procure the necessary attendance; and in either case the majority of these people, directly the compulsory age (only thirteen) is passed, no matter how backward their children in education, take them away from school—some to go to work, others to run the streets and learn to steal, and many very promising girls to a worse fate.

From the foregoing it may be gathered that a school of the description named, properly conducted, does a good work, but that it does not reach far enough in many cases to render the good done as permanent as it would be under an improved system. This leads to the proposition that special schools should be established for taking entire charge of the neglected children of the nation.

Some not well informed on the subject will argue that there should be no distinction made between state elementary schools; that the children under discussion should be distributed among the schools already in existence, because, it is advanced, the association with better clothed, fed, and trained children will raise them to a higher level, such being the result of good example. This theory sounds well, but when reduced to practice

utterly fails, as from actual observation it has been proved that instead of the slum children being morally raised, the usual scholars are considerably lowered by the association with their more precocious brethren, so much so as often to produce lasting injury, as children are more ready to follow an evil example than a good one; therefore the children of respectable parents have also a right to be considered in this matter.

Another powerful reason against mixing the slum children with other children is that the teachers cannot do justice to the ordinary pupils and at the same time pay special attention to a particular class, the result to the latter being that when the compulsory age is passed they return more completely to their wallowing in the mire.

Schools should be established to take entire charge of neglected children. When it has been ascertained by the truant officers (not the police) that the homes of children are unwholesome, through the bad character and associations of the parents or guardians—upon satisfactory evidence of the same being given before legally constituted authority—such children should be committed to schools specially provided for the purpose, there to have a home, receive a sound education, and then be taught agriculture, trades, or professions, as their several abilities may indicate; these pupils to become, *de facto*, the children of the state or nation, and not for one moment to be considered as prisoners or paupers, or treated as such. They should be endued, as far as possible, with a spirit of self-respect and self-reliance, and pride in their schools and country, and encouraged at a proper age to sign an agreement to recoup their cost to the country when able to do so. Of course when such children prove refractory, by running away or in other ways, they should be treated in a similar way to that in which good parents treat their offspring—*i.e.*, “He that spares the rod spoils the child.” Surely it will not require much argument to prove that the proposition is practicable, and would, if carried out, result in minimizing crime by laying the axe at its root.

The children of the drunkards, prostitutes, poverty stricken, and criminals should have the same chances in life from an educational standpoint as other children, so that an opportunity be given them of becoming respectable citizens, and so benefit both themselves and the world. It is not their fault that they are born with unfortunate environments; therefore it is not just that they should suffer through the neglect, misfortune, or vice of their natural protectors. Nor should the world be tormented through the wholesale manufacture of such pests to society, which, as a rule, neglected children become.

The legislatures of the world have made enactments to punish law-breakers (who are caught). But in criminal cases the punishment seldom has a curative effect. But, as a rule, the culture and production of criminals is allowed to proceed without restraint—*i.e.*, the law only attempts to shut the door after the mischief is done, instead of taking effective meas-

ures to prevent the cause, and so to the same degree lessen the effect. This, it is claimed, would be the result of the government *becoming the parent*, and taking entire charge of neglected children.

It is submitted that every child capable of receiving instruction is entitled to a sound education, no matter what the circumstances of the parent may be. Not unfrequently parents claim the right to the services of their young children (instead of sending them to school), because of their own (the parents') affliction, such as sickness, being cripples, blind, paralyzed, and so on. The benevolent who simply regard the surface will say, under these conditions children should be exempted from attendance at school. But these kind-hearted people support unwittingly the perpetration of gross cruelty; they sacrifice the children for the exigencies of the parent, and so the children are ruined for life, for they can never compete on equal terms with the educated, unless educated themselves. Succor should certainly be forthcoming for those in need, but most decidedly not at the cost of the future of a single child.

It may be urged that the already established reformatories, where the children convicted of crime are committed for a term, might also be utilized for all neglected children. To adopt such a course would be manifestly unjust to children who have not developed into criminals, and to associate them with those who have would be very unwise. The schools proposed for the slum or neglected children of the world are not reformatories, but (to coin a word) are formatories; that is, not for the purpose of reforming character, but to form character.

Lastly, from a financial standpoint it is submitted that although the outlay required for these schools would be considerable, yet the benefits following a marked decrease of crime, increased security to life and property, the reduction in the number of tramps and disorderly women, the lessened cost for the arrest, punishment, and detention of criminals, would not only amply repay the cost of the formatories, but would leave a substantial balance to the credit of the nations, even without taking into account what is of much more importance—that is, that many of the would-have-been scourges of society would instead be incorporated into the army of respectable workers of the world, and thus further demonstrate that “prevention is better than cure.”

DEPARTMENT CONGRESS OF KINDERGARTEN INSTRUCTION.

SECRETARY'S REPORT.

FIRST SESSION—WEDNESDAY, JULY 26, 1893.

THE Congress of Kindergarten Instruction met in the Hall of Columbus in the Memorial Art Palace. The meeting was called to order by Mrs. Eudora L. Hailmann at 9.30 A.M., Wednesday, July 26, who introduced Mrs. Ada M. Hughes, of Toronto, Ontario, as Chairman, who delivered the opening address.

Miss Alice H. Putnam, of Chicago, read a paper on "Shall Reading and Writing be taught in the Kindergarten?"

Miss Sarah A. Stewart, of Philadelphia, read a paper on "Changes in Kindergarten Plays and Games."

A paper was read by Miss Constance Mackenzie, Supervisor of Public School Kindergartens, Philadelphia, on "The Song in the Kindergarten—Its Place, Value, and the Dramatic Element."

Mrs. Sarah B. Cooper, of San Francisco, Cal., read a paper on "The Organic Union of Kindergarten and Primary School." Mr. B. Pickman Mann, of Washington, D. C., presented a paper, opening a discussion on "Modifications in the Primary School."

This subject was further discussed by Miss Mary C. McCulloch, Supervisor of Public School Kindergartens of St. Louis, Mo.

The subject, "How the Primary School may be Connected with the Kindergarten," was discussed by Mr. W. N. Hailmann, of La Porte. His remarks in substance were as follows: "I have experimented for ten years at La Porte, Ind., a small town, where I have not met the untold obstacles of a larger city. The only possibility of securing an organic connection between the kindergarten and the primary is by infusing the same spirit into the latter which distinguishes the former. The aim and purpose of the school is always the child and the child's living growth. Conventionalities of life belong no more to the primary than to the kindergarten. Right feeling must first be aroused, out of which conventionalities may grow. New wine must not be put into old bottles. The machine can never be infused with life. Whatever of the primary school is dead remains dead. We cannot connect the living kindergarten with the mechanical school. The only organic connection is to give the child opportunity to express himself all along the line of his development, and never to express the teacher. The primary, like the kindergarten, must be a process of freeing the child."

Mrs. Kate Douglas Wiggin, of New York City, was introduced by the Chairman, and warmly greeted. Having recently returned from London, she brought greetings from the following prominent workers of that city: Miss Lyschiske, Miss Emily Shirreff, Mr. Oscar Browning, M. Michalais, and Mr. Courthope Bowen.

During this opening session of the kindergarten department the platform was occupied by the following distinguished educators: Mrs. Hughes, of Toronto; Miss McCulloch, of St. Louis; Mrs. Newcomb, of Hamilton, Ontario; Mrs. Putman, of Chicago; Miss Mackenzie and Miss Stewart, of Philadelphia; Mrs. Hailmann, of La

Porte ; Miss Brooks and Mrs. Kate Douglas Wiggin, of New York City ; Miss Nora Smith, of San Francisco, Cal. ; Mrs. Wiley, of Buffalo ; and Mrs. Cooper, of California.

SECOND SESSION—JULY 27, 1893.

The Congress of Kindergarten Instruction was called to order by Mrs. A. M. Hughes, the President, at 9.30 A.M., Thursday, July 27, 1893.

Mr. W. N. Hailmann, of La Porte, Ind., reviewed the kindergarten situation in Germany and America, reporting upon the literature sent from abroad.

The commission in charge of the German Educational Exhibit confessed that teachers and schoolmen are antagonistic to the work, stating that the necessity of handling large masses of children made it impracticable ; but little by little they are having their eyes opened.

Angelika Hartmann, of Leipzig, has published a pamphlet on the relation of the kindergarten to the public school, dedicating the same to this congress.

On motion it was voted that this Congress of Kindergarten Instruction forward greetings and thanks to the kindergarten workers in Europe for their coöperation.

The valuable papers from other points of Europe were transferred to this section, that the same might be published in the report of the National Educational Association.

Mrs. J. N. Crouse, of Chicago, opened the discussion on "Preparation of the Kindergarten for her Work," making an urgent plea for longer, higher, and wider training. Miss Annie Laws, of Cincinnati, spoke from her personal experiences, recommending stronger measures, and a plea for better and more adequate remuneration for work, and suggesting lines of broader experiences as tributary to a kindergarten's training, such as is gleaned by visiting other schools in other cities.

Fräulein Annetta Schepel read a paper prepared by her co-worker, Frau Henrietta Schrader, of Berlin, on the topic, "The Kindergarten as a Basis for Life."

Mrs. Louisa Parsons Hopkins, of the Boston Board of School Supervisors, presented a paper on the "Preparation of the Kindergarten."

Mr. W. N. Hailmann closed the discussion by giving a most comprehensive sketch of the characteristic mental and physical conditions of the first seven years of childhood, which determine the special educative value of hand work in the kindergarten.

THIRD SESSION—JULY 28, 1893.

The Congress of Kindergarten Instruction was called to order Friday, July 28, 1893, by the Chairman.

A paper was read by Mary T. Hotchkiss, of Milwaukee, Wis., on "Story-Telling in the Kindergarten."

Professor Earl Barnes, of Leland Stanford University, read a paper on "To what Extent is Symbolism Justifiable in the Kindergarten?"

A paper was read by Mrs. Eudora L. Hailmann, of La Porte, Ind., on "To what Extent is Symbolism Justifiable in the Kindergarten?" in continuation of the discussion of symbolism.

Miss Harrison, of Chicago, spoke of the parallelisms between the race development and that of the child, and drew clear conclusions as to methods of fitting the natural symbols to the child's comprehension. At the close of Miss Harrison's words the chairman suggested that an informal greeting be sent to Miss Susan E. Blow ; also to Miss Emma Marwedel.

The discussion of symbolism was continued by Miss Lucy Whitlock, of Boston, and Mr. Arnold H. Hinewah, of Chicago.

The session was closed by the Chairman, expressing the hope that we might go to our homes to live out these great truths whose repeated utterances had warmed us into a keener appreciation of our individual possibilities.

LIST OF PERSONS ACCEPTING THE OFFICE OF HONORARY VICE-PRESIDENT OF THE DEPARTMENT CONGRESS OF KINDERGARTEN INSTRUCTION.

ARGENTINE REPUBLIC.

Mrs. Sallie C. Eccleston, Instructress of Professional Teachers, Parana.

AUSTRIA.

Fran Ottilie Bondy, Directress of Kindergarten, Vienna.
Herr Franz Hertel, Teacher Bürgerschule and Director of Manual Training School, Vienna.
Frl. Eleonore Kopper, Lady Principal of Primary Kindergarten, Graz.
Dr. H. Sonneck, President Froebel Association, Brunn.

CANADA.

S. B. Sinclair, Hamilton.
Mrs. Ada M. Hughes, Toronto.
Mrs. L. T. Newcombe, Hamilton.
Mrs. Mary E. Macintyre, Toronto Normal Kindergarten, Toronto.

FRANCE.

M. Chas. Delon. Sèvres.
Mlle. M. Loizillon, Paris.
Mlle. Marie Thomas, Paris.

GERMANY.

Herr Pfarrer Baehring, Minfeld.
Frl. Hartmann, Principal of Seminary, Leipzig.
Frl. E. Heerwart, Vice-President Froebel Association, Eisenach.
Frl. Marg. Kröger, Hamburg.
Frau Lina Morgenstern, Berlin.
Herr Lorenz Ylling, Director Seminary for Kindergartners, Munich.

GREAT BRITAIN.

Alfred Bourne, Stockwell Training College, London, S. W.
H. Courthope Bowen, Esq., M.A., London.
Miss Catherine M. Condon, London.
Miss E. A. Manning, London, W.
Miss Emily A. E. Shirreff, President of the Froebel Society, London.
W. Swan Sonnenschein, London.

ITALY.

Signora Francesca Petermann, Directress of the "Institute Vittorino da Feltra," Rome.
Signora Adela V. Portugall, Directress of Kindergarten and Normal School, Naples.
Signora Amalia de Rosa, International Froebel Institute Vitt. Eman. II., Naples.
Signora Cecilia Tassisi, General Inspectress of Infant Schools, Genoa.

SWITZERLAND.

Herr Friedr. Beust, Director of Seminary, Zurich.
Herr David Burgauer, St. Gallen.
Dr. I. Hürliman, Unterägeri near Zurich.
Herr Pfarrer L. W. Kambli, St. Gallen.
Herr Heinrich Wegman, Lehrer, Zürich.
Prof. G. Zehnder, Olten.

UNITED STATES.

ALABAMA.

Miss M. J. Moore, Directress Model School, Troy.

CALIFORNIA.

Mrs. E. I. Dodge, San Diego.
Nellie Dunlap, Orphan Asylum Kindergarten, Sacramento.
Helen Josslyn Le Beuf, Riverside.
Miss M. J. Lyman, Private Kindergarten, Riverside.
Mrs. C. H. McGrew, School of Methods for Teachers and Kindergartners, San José.
Mrs. Eva Mackenzie, Sarah B. Cooper Kindergarten, San José.
Mrs. Nora D. Mayhew, Training School for Kindergartners, Los Angeles.
Mrs. Annie S. Porter, Kindergarten Training School, San Diego.
Miss Nora A. Smith, San Francisco.

COLORADO.

Miss Emily Collar, Aspen.
Mrs. Charles Dickinson, Denver.
Mrs. A. K. Holt Kelly, Durango.
Mrs. Josephine P. Lee, Public School Kindergarten, Ft. Collins.

CONNECTICUT.

Miss Lucia M. Bower, Skinner Kindergarten, New Haven.
Miss Clara W. Miggins, New Britain.
Mrs. Fannie P. Brown, South Side School Kindergarten, Bristol.
Mrs. Fannibelle Curtis, Normal School Kindergarten, Willimantic.
Mrs. Charlotte L. M. Murray, South School Kindergarten, Hartford.
Mrs. N. M. Strong, Private Kindergarten, North Woodbury.

DELAWARE.

Mrs. Sarah S. Rumford, Free W. C. T. U., Wilmington.

DISTRICT OF COLUMBIA.

Mrs. Margaret T. McPherson, St. John's Free Kindergarten, Georgetown.
Mrs. Louise Pollock, Washington.
Susan P. Pollock, Froebel Normal Institute and Kindergarten, Washington.
Mrs. Mary F. van de Sar de, Elizabeth Peabody Kindergarten, Washington.
Miss Anna Schmidt, Private Kindergarten, Washington.
Caroline M. Sterling, St. John's Orphanage, Washington.

FLORIDA.

Mrs. M. E. Leak, Private Kindergarten, Myers.
Mrs. Mary A. West, Private Kindergarten, Tampa.

GEORGIA.

Miss Willette Allen, Atlanta.
Lawton B. Evans, Public School Kindergarten, Augusta.

ILLINOIS.

Mrs. Anne E. Allen, Cook County Normal School Kindergarten, Englewood.
Mrs. Lillian Dale Archibald, Englewood.
Mrs. Katharine Beebe, Wesley Avenue Kindergarten, Evanston.

Mrs. Fanny Chadband, Private Kindergarten, Rogers Park.
 Mrs. Rebecca C. Chester, Champaign.
 Mrs. Lydia A. Corbin, Buda High School Kindergarten, Buda.
 Mrs. J. N. Crouse, Chicago.
 Miss Laura Ebel, Kindergarten of Jewish Training School, Chicago.
 Mrs. E. S. Haas, Humboldt.
 Mrs. Bertha F. Hanks, Free Kindergarten, Freeport.
 Mrs. T. W. Harvey, Woman's Committee on Kindergarten Education, Chicago.
 Mrs. Mary M. Hazzard, Free Kindergarten, Galesburg.
 Mrs. A. P. Kimball, Private Kindergarten, Congregational Church, Quincy.
 Mrs. Agnes E. Langworthy, Kewanee Kindergarten, Chicago.
 Mrs. Harriet J. Launder, Public School Kindergarten, Riverside.
 Mrs. Rosa Schroeder, Froebelscher Kindergarten, Chicago.
 Mrs. Henrietta Stoeckmann, King's Daughters' Free Kindergarten, Bloomington.
 Miss M. Evelyn Strong, Principal Kindergarten Normal, Galesburg.
 Miss Rose Saunders, Principal Kindergarten, Pana.
 Miss Elizabeth Harrison, Chicago.
 Mrs. Alice W. Putnam, Principal Froebel Training Class, Chicago.
 Miss Eva B. Whitmore, Superintendent Chicago Free Kindergarten Association, Chicago.

INDIANA.

Mrs. Ida L. Foster, Free Kindergarten, Valparaiso.
 Mrs. Jennie Goodman, Second Ward Kindergarten, La Porte.
 Mrs. Eleanor H. Lewis, Principal Plymouth Kindergarten, Ft. Wayne.
 Mrs. Laura B. Nash, Free Kindergarten No. 1, Indianapolis.
 Miss Sallie P. Shields, Private Kindergarten, La Fayette.
 Mrs. E. A. Blaker, Indianapolis.

INDIAN TERRITORY.

Mrs. Phoebe Riddell, Kindergarten of Presbyterian Mission, Muskogee.

IOWA.

Mrs. Elizabeth K. Matthews, Special Kindergarten Training Department, Highland Park, Des Moines.
 Mrs. Julia Morrison, Lincoln School Kindergarten, Des Moines.
 Mrs. Amelia Murdock, Private Kindergarten, Elkadler.
 Mrs. E. K. Ogborn, Public School Kindergarten, Oskaloosa.
 Mrs. Frances Throop, Grinnell.
 Mrs. J. C. Trainer, Sibley.
 Mrs. Edith Grace Whiting, Private Kindergarten, Clarion.

KANSAS.

Mrs. Lucy A. Doolittle, Topeka.
 Mrs. Amelia L. Halsey, Kindergarten of Lewis Academy, Wichita.
 Mrs. Anna Oldfield, Private Kindergarten, Leavenworth.
 Mrs. A. K. Vaughan, Private Kindergarten, Hutchinson.

KENTUCKY.

Miss Anna E. Bryan, Louisville.
 Mrs. Laura P. Charles, Johnson School Kindergarten, Lexington.
 Mrs. Mamie R. Woodruff, Parkland Kindergarten, Parkland.

LOUISIANA.

Mrs. May Gyles, Daily Free Kindergarten, New Orleans.
 Mrs. J. E. Seaman, New Orleans.
 Mrs. Hattie Schuster, Private Kindergarten, Shreveport.

MAINE.

Mrs. Mary Crosby, President Kindergarten Association, Bangor.

MARYLAND.

Mrs. Laura M. Beatty, Froebel Normal Training Class, Baltimore.
 Mrs. Mannie Daugherty, Clifton Kindergarten, M. E. Church, Baltimore.
 Mrs. Viola M. Ewers, Principal Kindergarten, Richmond, Va.
 Mrs. Marian Thompson Morse, Grace Church Free Kindergarten, Baltimore.
 Mrs. S. L. Welsh, President Baltimore Kindergarten Association, Baltimore.

MASSACHUSETTS.

Mrs. Ellen Burroughs Foster, Home and Day Kindergarten, Lowell.
 Miss Laura Fisher, Boston.
 Miss Anne L. Page, Danvers.
 Mrs. Annie Coolidge Rust, International Kindergarten Union, Boston.
 Miss Lucy Wheelock, Boston.
 Miss Sara E. Wiltse, Jamaica Plain.

MICHIGAN.

Mrs. Helen Case Adams, Normal Training School and Kindergarten, Y. W. C. A., Lansing.
 Mrs. S. Baldwin, Kindergarten Industrial School, Detroit.
 Miss Florence A. Brown, Detroit.
 Mrs. Maud E. Cannell, State Normal School Kindergarten, Ypsilanti.
 Mrs. Mary L. Clarke, Private Kindergarten, Kalamazoo.
 Mrs. Elnora Cuddeback, Principal Kindergarten Training Department, Alma College, Alma.
 Mrs. Eliza Daugherty, Calvary Kindergarten No. 1, Detroit.
 Mrs. Hattie V. Hairband, Fifth Ward Public School Kindergarten, Ann Arbor.
 Miss Nelson Mosher, Private Kindergarten, Mount Pleasant.
 Mrs. Maud A. Reid, Principal Normal Training School, Detroit.
 Mrs. Susie T. Smith, Home Kindergarten, Saginaw, E. S.
 Mrs. Mary Williams, Free Kindergarten of King's Daughters, Grand Rapids.
 Mrs. Stella L. Wood, Superintendent of Kindergartens, Muskegon.

MINNESOTA.

Mrs. Mary P. Chamberlain, Principal Gethsemane Kindergarten, Minneapolis.
 Mrs. Mary S. Clarke, St. Paul.
 Mrs. Isabelle C. Deming, Duluth.
 Rev. E. C. Mitchell, President Free Kindergarten Association, St. Paul.
 Miss Anna Briscoe Selden, State Public School Kindergarten, Owatonna.
 Irwin Shepard, Winona.

MISSOURI.

Mrs. S. W. Davis, Richmond.
 Miss Cynthia P. Dozier, St. Louis.
 Mrs. Lillie Hammerstein, Director Charles Street Kindergarten, St. Louis.
 Miss Mary C. McCulloch, St. Louis.
 Mrs. S. S. Rector, Director Blow Kindergarten, South St. Louis.
 Mrs. Lina G. Shirley, Director Public School Kindergarten, Fourth Ward, St. Louis.

NEBRASKA.

- Mrs. Clara E. Baldwin, Private Kindergarten, Lincoln.
 Mrs. Carrie M. Bouteille, Hanscom Park Kindergarten, Omaha.
 Mrs. O. A. Whitman, Kindergarten Department, North Nebraska Normal College, Madison.

NEW JERSEY.

- Mrs. Annie Lowrie, Kindergarten Normal Training School, Newark.
 Mrs. M. I. Stevens, Newton.
 Mrs. Katharine Trautwetter, Public Kindergarten, Carlstadt.

NEW YORK.

- Mrs. Alice J. C. Alcott, Port Chester.
 Mrs. Sophia S. Bixby, Kindergarten of High School, Norwich.
 Mrs. Annie C. Boardman, First Public Kindergarten, Utica.
 Miss Angeline Brooks, New York.
 Miss Hannah D. Mowry, Brooklyn.
 Mrs. Eliza M. Donovan, Kindergarten, Women's Educational and Industrial Union, Dunkirk.
 E. C. Elder, Buffalo.
 Katharine G. Fair, Principal Port Chester Kindergarten, Port Chester.
 Miss Carolyn T. Haven, Kindergarten Workingmen's School, New York.
 Mrs. Mary W. Hawley, Flatbush.
 Mrs. Marie C. Dietrich Hornsby, Kindergarten of Adelphi Academy, Brooklyn.
 Mrs. Ida M. Isdell, Kindergarten Department State Normal College, Albany.
 Mrs. Anna J. Rock, Public Kindergarten, Niagara Falls.
 Mrs. Antoinette Rogers, Private Kindergarten, Watertown.
 Miss Olive Smith, President Teachers' Association, Albany.
 Mrs. Edith J. Wadsworth, Kindergarten of Union Free School, Patchogue.
 Mrs. Charlotte H. Weed, Kindergarten New York State Institute for the Blind, Batavia.
 Mrs. Emma W. White, New York.
 Mrs. Katherine Whitehead, St. Andrew's Kindergarten and Training School, Rochester.
 Mrs. Mary J. B. Wylie, Buffalo.
 Mrs. Kate D. Wiggins, New York.

NORTH CAROLINA.

- Anna T. Jones, Private Kindergarten, Greensboro.
 Mrs. O. M. Quayle, Asheville.

OHIO.

- Mrs. F. D. M. Bratten, Principal Free Training Class for Kindergarten, Cincinnati.
 Mrs. A. E. H. Clark, Akron.
 Mrs. Viola R. Fox, Seminary Kindergarten, Springfield.
 Miss Mary E. Law, Froebel Kindergarten, Toledo.
 Mrs. Mary S. Morgan, Principal Youngstown Free Kindergarten, Youngstown.
 Mrs. Weltha M. Pinney, Columbus.
 Mrs. Louise B. Rawson, President Day Nursery and Kindergarten Association, Cleveland.
 Mrs. S. E. Roebuck, Lake Side.
 Mrs. Mary Chandler Salisbury, Principal Cleveland Kindergarten Training School and Kindergarten, Cleveland.

OKLAHOMA.

- Mrs. Mary R. Pollock, Osage Agency.

OREGON.

- Mrs. C. Dunlap, President Portland Free Kindergarten Association, Portland.

PENNSYLVANIA.

- Mrs. Blanche Hart, Froebel Kindergarten, Allegheny City.
 Miss Jennie E. Kean, Tyrone.
 Miss Constance Mackenzie, Superintendent Public Kindergarten, Philadelphia.
 Miss Sarah A. Stewart, Philadelphia.
 Mrs. M. S. Vankirk, Philadelphia.
 Mrs. L. P. Wilson, Principal Private Kindergarten and Training Class, Altoona.

RHODE ISLAND.

- Mrs. C. M. N. Alden, Providence.
 Mrs. Mary E. Bliss, Willow Street Kindergarten, Newport.
 Mrs. Cornelia Russell Wright, Kindergarten of Free Kindergarten Association, Providence.

TENNESSEE.

- Mrs. Elizabeth H. Baker, Kindergarten in charge Free Kindergarten, Nashville.
 Mrs. Sara E. Grigg, Principal Kindergarten King's Daughters, Knoxville.
 Mrs. Ella M. Wheatley, Memphis.

TEXAS.

- Mrs. Janie R. Baker, Austin.
 Mrs. James S. Fitzhugh, Waco.
 Miss S. Rosella Kelley, Sherman.
 Mrs. Adda Woodson, Leonard.

UTAH.

- Mrs. Marion Lewis, Salt Lake City.

VERMONT.

- Mrs. Amy B. Fisk, Principal Kindergarten Training School and Kindergarten, Montpelier.
 Mrs. Carrie M. Wheelock, Barre.

VIRGINIA.

- Mrs. Lizzie Anderson, Martha Washington Kindergarten, Abingdon.

WASHINGTON.

- The Misses Daisy and Minnie Clark, Tacoma.

WISCONSIN.

- Mrs. F. B. Dunning, Madison.
 Mrs. Alpha O. Goldsmith, Milwaukee.
 Mrs. Caroline C. M. Hart, Baltimore, Md.
 Mrs. Mary T. Hotchkiss, All Saints' Cathedral, Milwaukee.
 Mrs. Jane Lloyd Jones, Private Kindergarten, Hillside Home School, Hillside.
 Miss Lida M. Kimball, Superior.
 Mrs. Dr. Charles Ottilie, President Kindergartenverein, La Crosse.
 Mrs. Sara L. Severance, East End Kindergarten, Superior.
 Miss Nina Vandewalker, Whitewater.

KINDERGARTEN INSTRUCTION.

INTRODUCTORY ADDRESS.

BY MRS. ADA M. HUGHES, OF TORONTO, ONTARIO, PRESIDENT OF THE
KINDERGARTEN CONGRESS.

LESS than half a century ago the name of the great apostle of the new education was one of derision. The old man who played with the little children was called by the villagers "the old fool." To-day we meet to honor that name as that of the prophet of a spiritual freedom which we have at last begun to realize. One of the most important of the many departments of the International Congress of Education is that of the conference of the followers of Froebel. In this New World we have seen the light of that star in the east, and have followed reverently and earnestly to the birthplace of divine truth and divine childhood, and seek for more light and clearer insight. To-day we hold out both hands in welcome to all who gather here. It is a great joy to take the hand of those who have known the immediate followers of the great apostle—those who have wandered through the same paths in the fields, rested under the same skies, been surrounded by the same associations and local experiences. We say to them : Tell us of the everyday life and words of the master, that we may *feel* more deeply the inner life from which this great truth sprang into material expression.

To those who have come from across the sea, who speak the same language as ourselves, as well as to those of other tongues, we extend the welcome of members of one family, to sisters and brothers, separate in space, different in customs, but one in spirit and desire. We pray that this conference shall be a season like Pentecost of old, when each, whether of our own land or the dweller beyond the sea, shall hear in his own language the things of the living spirit.

Our German friends say of us in this country that we do not run or leap, we simply fly, and therefore we are in danger of losing sight of the solid foundation on which all permanent building must be based. We acknowledge our danger, and say, Give to us of your insight, and your wealth of personal expression of the great apostle, that our rapid action may still be rapid, and at the same time safe, because we have *material* landmarks to guide us. Mothers and little ones love the *Mutter und Kose Lieder*, but few educational people have felt all its marvelous power, or seen it as the wonderful interpretation of child growth and instructive mother-love.

His education of man has given wonderful insight into the growth of being as a whole, but it is in his personal letters to mothers and dear friends that we seem to come closer to the personality of the man.

We have given the kindergarten a hearty welcome in this broad republic ; and, as our foreign friends say, our progress in the last five years has been that of flight rather than touching earth. Obstacles vanish before us ; friends receive the kindergarten with open arms ; enemies and doubters are reconciled and believe. The truth does make us *free*, and we need the strong, sure balance of insight into the eternal truth of principle to steady our movement and calm our enthusiasm, to keep us united in a *conscious expression* of that foundation truth—the highest *unity* is that of unity in variety.

SHALL READING AND WRITING BE TAUGHT IN THE KINDERGARTEN?

BY MRS. ALICE H. PUTNAM, CHICAGO.

WHILE the word “growth” is the watchword now passing along the line of development from the nursery to the university, the fact that there are definite *stages* of growth, definite periods of life in which man may do certain things—nay, *must* work out certain problems which he cannot solve so well at any other time—is a fact not so fairly recognized.

The tools of the kindergarten, its games, gifts, and occupations, we all know are the means of growth at this stage ; and it must be remembered that, while opening the doors of the child’s mind to that which is external to him, they offer a theater for action or expression in which each child plays a leading part. Every sense is to be exercised and brought into relation with every other sense, for upon clear sense perception will depend the clear concept which will be imperiously demanded in the later stages of growth.

Whatever is arbitrary and conventional has a tendency to check rather than further this development. Reading and writing can never open up the young child’s heart and mind to these truths as do nature’s symbols, for even to the youngest child nature’s truths are universal truths ; they are always true to themselves, and their relationships stand out boldly.

Again, when the child gains thought from words, it is not his own thought in the sense that his use of typical objects is his. His discoveries of form, position, color, etc., are his experimentally. With the *word* he has had nothing to do ; it can bring him no message of the past, for, as has been said, to this child there *is* no past. He can use the word only along one line, while in the other case he is reaching out and applying successfully to *all* objects the elementary attributes gained from the one object.

We shall never have clear, strong thinking in the boys and girls in our schoolrooms until we have given them materials to make thought of. *Words* do not feed the *whole being* of the child; and if this entity is not rightly nourished, the youth and maiden will find, when the day of reckoning comes, that the bank account has been overdrawn.

It is a common thing to hear parents say: "I want my child to learn to read early, so that he can amuse himself." I wonder if they realize what it means, in this day, to keep this reading wholesome! Do you know how a child who loves to read devours everything that comes in his way? His taste for good reading is often vitiated before we realize it. It is of vital importance, therefore, that our children have their eyes opened to nature and true art, that there may be some standard within by which to measure the value of what is brought to them in books.

So we return to the thought, as all of this experimental nature-study takes time, that in the first seven years plastic material shall be given through which the child can store up a fund of sense impressions—a power of imagination without which later study will be but an effort to make "bricks without straw."

When the page is turned, and the child passes on to a stage in which the love of knowing, of investigating, is the ruling desire, we find the conventional symbols of written language a most helpful means of growth, and it is at this time that the art of reading can be acquired most readily.

There is testimony enough to substantiate the claim that the child trained in the kindergarten loses no time, but rather gains a strength that words can never bring to him if they are presented too soon. I know perfectly well that children can be taught, and easily taught, to read at the age of three or four years. That is not the question, but rather, What has been gained by the process? I believe, *nothing*, for it only induces an earlier habit of thinking other people's thoughts instead of our own, when, at this age, our children need to be gathering *first-hand* the materials for thought.

CHANGES IN KINDERGARTEN PLAYS AND GAMES.

BY MISS SARAH A. STEWART, PHILADELPHIA, PA.

- (1) Should plays and games which Froebel invented be modified?
- (2) Should substitutions be made for any of them?
- (3) Should others be added?

FROEBEL was the first of the great educational innovators to base systematic development upon the spontaneous activity of the child. Educators of all times had acted upon the theory that suppression of physical activity was a necessary condition of mental growth. The instinct for

play, which allies the child to the young of all animals, was held to be an obstacle which must be overcome before there could be any spiritual and mental advance. Asceticism had done its work so completely in education that this primal law of childhood was in danger of effacement. To seize upon this rejected life principle and make it the corner-stone of a new education was the work of genius.

A real distinction may be made between plays and games, although the terms are often used synonymously; no hard and fast lines can be drawn between them. We shall take the first to mean all the undirected movements of children which come from their rich endowment in spontaneous activity. In the kindergarten it shows itself in imitative play and work. Froebel early recognized this law, and to him alone is due the honor of inventing an abundant amount of material by which the native instincts of children for activity may be satisfied. The twenty gifts and occupations furnish a means for organized development, and serve to give an educative direction to the child's faculties and powers. On the playground the instinct for play shows itself in imitative actions, trials of strength and skill which minister to the early and simple emotion—love of power.

Games are an outgrowth from this early stage, and the child delights in them when the intellectual powers are developed sufficiently to direct spontaneous activity by well-established rules, and when an element of pleasure is added from the altruistic side, by comparison and competition with others. Both plays and games are an expression of the law of motion—the initial starting-point and measure of life.

Froebel makes this development begin with the child in the cradle. The simple plays and exercises which the mother carries on with the child are types of a whole line of activities (pleasant) given for the healthful and graceful development of the body. They are designed to show the spirit and method with which all early plays should be conducted, rather than as finished products to be imitated and reproduced by all mothers under all circumstances.

A careful analysis of the games given by Froebel shows that they are based upon fundamental principles, and with modifications may have universal application. He never makes the mistake of taking a purely local or unworthy subject. Every child needs to be taught the value of time; his clock game and song typify this, but do not limit to those particular words and actions.

It is essential that the child be taught to recognize the great law of change through that which he best understands, but is not necessary that this be illustrated in the especial way in which Froebel makes the *type* mother teach the game. Whatever a child imitates he begins to understand; so Froebel makes games to call attention to the various activities of animal life. The bird games, the barnyard, the lizard, and the fishes, mirror the life which is nearest to the child, and become an inspiration

to later and wider study. It is significant that in the animal games which Froebel gives he presents types of the three kingdoms—earth, air, and water—and so suggests unity and completeness.

The model for the teacher is evident. The lizard game played by the children in Froebel's kindergarten in the dear, sleepy old German village, with a brook running through it, with lizards basking upon its banks, becomes a type game for illustrating a method by sympathetically representing the life which is nearest the child. The teacher in St. Mary's Street (our type street for the slums) would make a mistake if she teaches the game as it is simply because she finds it in Froebel's collection. She would be nearer to his teaching if she should take the grimy child who floats his miniature ship, represented by a chip, its rich cargo represented by bits of paper, on the surface water of the gutter, and substitute for him, for example, Mrs. Ormiston Chant's beautiful game, written with no less loving insight into child life, "Here we float in our golden boat, far away, far away." The judicious teacher could float the child out of the uncanny world in which he finds himself, into a truer conception of the life outside—the river, the ocean life; or, to put it in the more beautiful language of Froebel: "The play and playing of the child must be in harmony with his surrounding, through outward things his inner life to rouse, to strengthen power and mind, and lead the child to trace inner meanings in the outer face."

Froebel remembers also that the child is a child of man; that he must be linked in sympathy and understanding with the industrial activities of life; he presents the most primeval ones, or those which stand closest to human needs—the farmer, the carpenter, the miller. Other industries may stand nearer to some children. Those should be taken which begin where they are and lead out directly into related life.

The family, the source of all that is highest and best in human relations, is typified in the finger games. The highest moral attributes are personified in the game of the "Knights and the Good Child," while the evil is made unlovely in the same graphic way.

As in the childhood of the race religious teaching is represented by the drama, so by plays and games Froebel voices aspiration in that direction, and teaches universal truths in this most pleasant form. He does not forget the artistic longings of the child, as shown in the game of the piano; and he awakens the creative activity and æsthetic sense in the game of the little artist. From his deep sympathy with childhood he touches every spring of its nature, and seeks to put it in touch with every department of surrounding life. In this way he gives us an inspiration and a method, while leaving the details to be modified or changed as the external surroundings and the inner needs of the children suggest. It is the spirit, not the form, that is important. It is the subject matter and its *relationships* that he would emphasize. The accidental or unimpor-

tant drop out, or do not appear in his category. He has a strong grasp of the essentials, and presents them in their unity ; in short, he attempts a comprehensive scheme of human development. How nearly one can follow him, will depend upon how nearly one can put himself upon the same plane of mental and moral achievement.

Many new and excellent plays and games have been invented since the time of Froebel ; these have followed very closely the lines laid down in his works. They have been substituted with great advantage for some of his. New ones have been invented to suit our new conditions, and with a musical setting entirely in harmony with sound principles, although differing from Froebel's. But the constant tendency is to make the exercises too difficult, and to lose the spirit of play in the outward form. The thought of the teacher is too often superimposed upon the child, and aimless, unfruitful results follow. New games are multiplied, with the hope of creating more interest and life, until often the unnatural and grotesque take the place of early simplicity and power.

Competition among kindergartners for something new and different from others often leads far astray from sound principles. The inability of the average mature mind to see things from the child's point of view, and the constant overlapping of methods of physical culture suitable for older children, makes it very difficult to attain and retain the standard set by Froebel. Other kindergartens neglect the plays and games for what they are pleased to call *work*, from purely conscientious motives. Their inability to sympathize with and express childish conceptions leads them to cling to parts of the kindergarten exercises that they can do best. Most kindergartens are noted for some one thing, which is practiced to the detriment of others ; and this not so much from ignorance or lack of conscience as from a lack of power.

How is all this to be remedied ?

With a large class of us—by being born again. With another large class—by training.

We have already plays and games sufficient. The *something new* must be looked for from within, from the *soul* of the teacher and the child, rather than from the modification, substitution, or elimination of outward forms.

THE SONG IN THE KINDERGARTEN—ITS PLACE, VALUE, AND THE DRAMATIC ELEMENT.

BY MISS CONSTANCE MACKENZIE, DIRECTOR OF PUBLIC KINDERGARTENS,
PHILADELPHIA.

THE song seems to claim a place for itself in every nook and corner of the kindergarten. It is appropriate almost everywhere. It welcomes the children into the morning ring, and accompanies, with delightful fresh-

ness, the subject of the morning talk. It leads them in the march and through the games, and follows them to the tables. It introduces the gift and closes it. It brightens and lightens the occupation, making the informal busy time a glad union of voice and finger exercise. And its last friendly strain dies away only as the kindergarten is left empty of children at the session's ending. Other reasons aside, its place is assured because the children love to sing, and this love of song in childhood leads me directly to the question: What is the value of the song in the kindergarten?

To start with reasons physical for the value of the kindergarten song, we may draw attention to the chest development induced by good singing. To achieve its best results, the physical training of young children should possess an interest to them entirely outside of the development of the body. Gymnastics, as such, have no place in the kindergarten. In the song this condition of good physical training is met to the extent of the song's possibility. The child learns to sit and stand with back straight and shoulders well back, not formally, but with the understanding that it is the song's requirement and preamble. The action at once tends to broaden and elevate the chest. So, also, does the habit of deep breathing which, as the children learn to sing well, they unconsciously adopt. There, too, is the development of the voice—a result not alone of depth of chest, but also of the interest of the children in interpreting the sentiments of the song-story. And the children's interest in the story and the delight in the music form the foundation of all that is valuable in their singing.

There are reasons manifold for the value of the song in the kindergarten from the point of view of the child's unfolding intelligence. The song offers one of the most attractive means of emphasizing all that is received through the talk, story, game, gift, occupation. It is an ever-varying, ever-pleasing repetition of the child's knowledge, and an always popular means of following up new experiences. The rhyming, measured language impresses itself upon the childish mind as prose can seldom do. It is to him the language form most readily retained and most delighted in. It is, furthermore, when chosen as it should be chosen, with a due regard for its literary and artistic value, for the most fitting and the most exquisite in wording and music, a means of training in fine taste surpassed in opportunity by nothing else in the kindergarten.

The child who has learned to appreciate beauty of word-language and of tone-language is, to the extent of his appreciation, both a poet and a musician, and in being both or either he is intellectually greater and morally greater than he was before the unfolding in him of the æsthetic sense. Bad music and paltry rhyme are dying out of our kindergarten song-books. It is hardly possible nowadays to hear, as I have heard, of Mary's lamb, that he—

“ Waited patient *lee* about,
Lee about, *lee* about,”

in order to accommodate words, poor enough in themselves, to worse music. Moreover, the good song offers to the child a standard of expression in language and music especially valuable while he stands on the threshold of expressive power, and is then permanently impressed by the earliest examples brought to his notice.

The chief and inestimable value of the song lies not, however, in the physical or in the intellectual, but in the moral training it affords. The song is the uplifting of the spirit. Its effects are as various as the ever-changing childish moods. Well and judiciously used, it is a means in the hands of the kindergartner of creating moods. Harmful influences may be confronted and overcome, good ones strengthened, by the right song in the right place, sung as it should be sung. Weariness and irritation are changed into a sense of peace by the introduction, without preface or preparation, of a soothing song without action. Dullness and heaviness may be dissipated by an unexpected dash into a stirring bit of music. And many are the quietly pointed morals, not too evident, but sinking all the deeper because undisturbed by direct allusion, of which the song becomes the happy vehicle.

Music is, as we know, essentially an appeal to feeling, and when we wed fitting words to fitting melody, so that between the motive of the one and the motive of the other there shall be no discrepancy, we shall have laid a direct avenue of approach to the child's sympathies, to his better and more refined instincts. The road to reverence lies through the feeling, and to it the song leads the way. It winds by way of sympathy and respect for the lower forms of life, lifting itself up to a tenderness for the human in life ; and in and through the human it sees and reaches the divine. Take a song like the following to observe how a child's reverential feeling is first stirred :

“ The alder by the river shakes out her powdery curls ;
The willow buds in silver for little boys and girls ;
The little birds fly over, and oh ! how sweet they sing,
To tell the happy children that once again 'tis spring.”

When a child shall have learned to feel the sentiment in such a bit of musical poetry, and to recognize a loving relationship between himself and the alder, the willow buds, and the little birds ; when he shall have begun to stretch out in friendly greeting to things and people not himself, he will have taken the first step in religion. And as he keeps on singing the song again and again, and adds others of the same uplifting tendency, with music that also elevates, the sentiment of reverence deepens and widens until, by and by, it embraces all that he can know of what is true and good and beautiful.

The answer to the question as to how far the dramatic element should enter into the song can be broadly stated in three propositions :

The subdued song, with the thought turned inward, should be sung without further action than may be expressed by undisturbed attitude ; as in the " Winter Prayer " :

" Loving Friend, oh, hear our prayer !
Take unto Thy tender care
All the leaves and flowers that sleep
In their white beds covered deep ;
Shelter from the wintry storm
All thy snow-birds ; keep them warm."

Here the only unforced action is the lifting of the head in appeal. If further gesture be introduced, such as an imitation of the movement of the storm, or of the covering over of the flowers, the simplicity and unity of the song is marred ; the thought is distributed among the objects for which the appeal is made instead of being centered upon the One appealed to, and the intended effect of the little hymn is destroyed.

The song that tends to project thought outward, the song of joyous, leaping action, needs action in its expression ; as in the well-known blue-bird song :

" I know the song that the bluebird is singing
Up in the apple-tree where he is swinging.
Brave little fellow ! The skies may look dreary ;
Nothing cares he while his heart is so cheery.
Hark ! How the music leaps out of his throat !
Hark ! Was there ever so merry a note ?
Listen a while, and you'll hear what he's saying
Up in the apple-tree, swinging and swaying !"

In such a song as that, the child is living among things external ; " up in the apple-tree " lifts his hand with it. The listening attitude of the hand to the ear, or the finger lifted and the head turned, are almost instinctive, and the cradling movement, in time to the music, goes by itself as the bird tips the branch. The charm of the words, the swing of the rhythm, the catch of the music set him " swinging and swaying " until he is a bit of nature, at one with the rapture of the outburst of song. If we here separate gesture so instinctive from the singing, we check the child and spoil the song. It is in songs of such character that children most naturally select their own form of action, because they feel it so keenly in the blood. Let them choose. Encourage choice, and adopt the best they propose.

Songs requiring movement so violent as to interfere with natural breathing action should be acted out only by those of the children who are not singing. This proposition should be laid down as a principle. There are many songs which in their suggestiveness call for quite violent

movement; movement delightful to the children, and of great physical value. Such gestures may be employed by half of the class as a sort of a Greek chorus, illustrating objectively the story told in the song. In no other way is violent gesture for a moment to be considered, unless one would counteract all physical benefit derived from the act of singing.

Every song, no matter how classified, calls for interpretation through the movement of the muscles of the face. The intention of the song should transfuse the countenance of the child; its very spirit must shine through his eyes. But this expression is pernicious in the extreme if it be "put on." The song-story and the music must be felt, or it ought not to be used at all; for unfelt expression is utterly false and artificial.

"Thanks to the sunshine,
Thanks to the rain,
Little White Lily is happy again,"

sing the children. It will not do to say to one dismal-faced little songster, "James, look happy." One cannot look happy to order; not honestly happy. And with feeling of any kind that is not honest we want nothing to do. But if one says for the class generally, for James to hear: "I can see that Mary is a happy little lily; see how her face shines," then James forgets himself, ceases to be a child, and enters wholly into the fresh gladness of the flower. And at once the feeling will show in his face.

While care should be taken that no song that does not suggest action should have action thrust upon it, one should be equally observant not to discard gesture which the very nature of the song almost compels. I have heard singing rendered lame and lagging, because the kindergartner missed the impulse in it, of striving to push outward into action. A suggestion from her would have animated the singers and have wakened the song into life.

Finally, I would urge that, be the song what it may, no gesture be permitted that does not mean something, that does not add to the song's value as a means of expression, and that is not natural. I have seen songs so crowded with movement that not one gesture could be clearly and definitely finished. I have seen songs marred by gesture which would have been tenfold more effective had they been sung quietly, without action, as both words and music demanded. And I have seen songs made ridiculous by misfitting everyday words to gestures that the child would never use in like connection in everyday life; as in some of the songs of greeting and of farewell:

"Good-by, happy work;
Good-by, happy play!"

—with both hands outward thrown as each good-by was said, in farcical exaggeration of expression.

I have hardly begun to plead the cause of the song in the kindergarten, but it needs no special pleader. Other things have their place, but the song belongs to all times and places ; and at every time and in every place it has its special hundred-sided value. It is the very breath of the kindergarten. And it behooves us all to see to it that our children breathe in only the fresh, pure air of the best we have in song.

THE ORGANIC UNION OF KINDERGARTEN AND PRIMARY SCHOOL.

BY MRS. SARAH B. COOPER, OF SAN FRANCISCO.

I MUST confine myself to twenty minutes, at the outside. I desire to occupy but fifteen, leaving every possible moment for discussion ; for discussion stirs the soil around the roots of truth and gives it a vigorous growth. Let us go straight to the heart of the matter.

"We learn through doing"—*that* is the foundation principle on which the kindergarten rests. The highest type of humanity which education can produce is reached by the equal and simultaneous growth of every faculty. The kindergarten provides for the nourishment of *every* faculty in its earliest stage, on the ground that all are essential to a perfect growth. The epochs of educational growth follow the divinely ordained epochs of vegetable growth ; there is the root-life, the stem-life, and the blossom life. That the blossom will depend very largely upon the care and nurture given to the root, no one will deny. So, then, the germs of *every* faculty must have their appropriate nourishment at the earliest possible point of time, and there must be, also, simultaneous growth. True growth is the equal and constantly increasing development of every faculty. That is not genuine growth which is developed only on one side ; that is a bulging and misshapen condition. In order to proper growth there must be freedom, coupled with obedience to the innate laws of life and being—exactly as it is in the vegetable kingdom. The child must learn to use his mental powers as he has learned to use his bodily powers, by patient, persistent training and effort ; he must use his faculties as he does his limbs. He must learn to climb the stairs of mental and moral difficulty as he learns to climb the household stairs. The art of training precedes the art of teaching. The pressing curriculum of daily school life leaves scanty time for this gradual development of all the faculties of a little child. I do not believe that we begin to understand what is included in that expression, "all the faculties of a little child."

I believe, dear friends, there is a vast range of "unmapped country" within us awaiting discovery ; a vast domain of unexplored territory, as yet unpreëmpted and uncultivated, toward which the eye of Frederick

Froebel, that great educational Columbus, was directed with a clear, steady, and divining gaze. He was the discoverer of childhood. He saw with true spiritual insight what eternal continents of truth, what priceless stores of hidden-away possibilities there are in the human mind. He saw the rich loam of faculty, needing only the clearing away of underbrush and briars, the letting in of soft sunlight and gentle showers, to beckon forth the sleeping germs. Frederick Froebel saw it all with prophetic clearness of vision, and having consecrated himself to the heaven-inspired work while he lived, with a perfect faith in its ultimate triumph, he bade a brave farewell to the few true friends who stood by him in his work, knowing that "what is excellent, as God lives, is permanent." And so it has proved; for to-day the great educational principles which he discovered and laid down are going forth in every direction, conquering and to conquer. The kindergarten is his enduring monument. As Dr. William T. Harris says of it: "The kindergarten is the grandest system of education ever devised by man."

The kindergarten concerns itself more with the development of faculty than with the mere imparting of knowledge. It recognizes the fact that all true education is learning transformed to faculty. It does not ask so much, "What does the child know?" as "Has the child learned how to learn?" It looks less to mere acquirements than to the capacity to acquire. It is teaching the little child to teach himself. It is controlling the little child that he may learn the art of self-control. It is the aim of the kindergarten to make men and women who will be self-governing, and thus be a law unto themselves; the sovereign of their own faculties, the pope of their own senses; men and women who will succeed by their own skill and industry. The education of the future must develop the industrial capacity of the masses. Cultivate the powers for creating and organizing, and then the desire for *doing* and *accomplishing* will take the place of the insatiable desire for *having* and *getting*.

How is this education to be accomplished? The kindergarten winnows out the faculties and gives them scope. It gives the boy a chance to choose his work according to his faculty. Every human being is a volume worthy to be studied. Huxley says: "If the nation could purchase a potential Davy, Watt, or Faraday at a cost of a hundred thousand pounds down, he would be dirt cheap at the money." This work of finding out what is in the child must be begun just as early in life as possible. Practice should go hand in hand with theory from the very start. In the first place, the kindergarten looks vigilantly after the physical life; this is the *substratum*, the soil out of which all other life must spring. Physical integrity is the very first condition of success and happiness. "On the broad and firm foundation of health alone can the loftiest and most enduring structure of life be reared." One definition of a man is: "An intelligence served by organs"; and to serve him

well these organs must be in good repair. A sound body is the best handmaid to a sound intellect. In the consentaneous cultivation of the physical, the mental, and the moral, the highest perfection is to be found. There must be a balanced progress in which no part profits or is fostered to the injury of the rest. Herbert Spencer insists that to develop the physical, play is better than gymnastics. The kindergarten in its work with little children has been called "organized play." Frederick Froebel saw that this universal instinct for play in little children had a deep meaning, and he set himself to discover and utilize this mighty engineery of power and purpose.

The kindergarten is the best agency for setting in motion the physical, mental, and moral machinery of the little child, that it may do its own work in its own way. It is the rain and dew and sun to evoke the sleeping germ and bring it into self-activity and growth. It is teaching the little child to teach himself. The kindergarten devotes itself more to ideas than to words; more to things than to books. Children are taught words too much, while they fail to catch ideas. Give a child ideas. The world does not need fine rhetoric—valuable as that is—half as much as it needs practical, useful ideas. A famous inventor's counsel to a young man was: "Study to have *ideas*, my boy; study to have *ideas*. I have always found if I had an idea I could express it on a shingle with a piece of chalk and let a draughtsman work it out handsomely and according to rule. I generally had ideas enough to keep three or four draughtsmen busy. You can always hire draughtsmen, but you cannot hire *ideas*. Study to have ideas, my boy." The man should be the master, not the slave, of his learning, and whether he is the one or the other depends very largely on the way his knowledge has been gained. It is better to be the master of a little knowledge, with the capacity to use it creatively, than to be the unproductive carrier of all the learning in the libraries. Study to have ideas! Life will give no end of opportunities for using them. *That* is exactly the aim of the kindergarten—to make the mind creative, to stimulate thought, to beget ideas. Habits of observation are cultivated. Observing is more than seeing. The child in the kindergarten is taught to *observe*—that is, to notice with attention, to see truly. What he learns in the schoolroom is calculated to make him keep his eyes wide open to the world about him. He is taught to think, and that is the primal thing.

One of the most noted among the disciples of the great Froebel—Miss Emily Shirreff, of London—says: "The poor man suffers *wrong* when his education is so defective that he cannot use his faculties aright; when his senses are blunted, his observation and judgment insecure. This wrong to the poor may be avoided by early methodical training in the kindergarten, thus fitting him for industrial pursuits. As it is now," she goes on to say, "when boys and girls leave school to go to some trade, they go with hands and eyes absolutely uncultivated. They begin with clumsy fingers,

with that untrue habit of vision which belongs to those who have never learned the difference between accurate and inaccurate impressions. Suppose these children had been first trained in the kindergarten, taught there to observe resemblances and differences of forms and colors, to reproduce accurately what they have observed accurately, to have acquired a certain sureness and delicacy of handling, which would be further cultivated by drawing at school—then these boys and girls would enter an industrial apprenticeship, or any technical school, in a very different condition. They would be able to grapple at once with ordinary difficulties, instead of *beginning* the education of their hands and senses, and would in consequence reach much sooner the degree of proficiency that insures payment for work. When we withhold this cultivation of the senses and of manual dexterity, we actually maim children in the use of some of the most important faculties ; we rob them of what nature designed for them." It is a fact that too little thought is given to boys and girls who upon leaving school will enter industrial ranks. Too large a share of training is paid to mere intellectual development, too little to practical morality and manual training. It is charged by some that our public schools tend to unfit our boys and girls for good, honest work. Is the charge true ? I do not believe it is. It ought not to be so.

A thoughtful observer and educator wisely says that four years of study without labor, wholly removed from sympathy with the laboring world during the period of life when tastes and habits are rapidly formed, will almost inevitably produce disinclination if not inability to perform the work and duties of the shop or farm. There must be something wrong where such a feeling exists. It is not necessary to be a drudge in order to be a workman. The kindergarten ennobles toil. It teaches the little child to work with his hand, but to control his work with his head. Let this purpose and spirit pervade industrial education until the child reaches to manhood's estate, and his labor will be full, not only of *manly* quality but of *moral* quality as well. The coördination of the workshop and the schoolhouse would be the emancipation of labor from present prejudices.

Let all the children, rich and poor, have a chance to make the most of themselves ! Democracy means equitable opportunity. Liberty of growth and equality at the start is the law of all true democratic life. That is the glory of our common schools. And we could better afford to lose every college and university in the land than to lose our free common schools. The rich boy and the poor boy stand on a common level in the public school. If the rich man's lazy boy will not study, he must stand below the poor man's studious boy, and that is all there is of it. The public school is a germinant republic where all altitudes and elevations are brought down to a common starting-point, and where the word of command goes forth : "Now, boys, your feet must all stand on a common level, but you may shoot your heads just as high as you please."

Let us fit the young for the work of life ! Let us equip them for maintaining themselves in honest independence ! I rejoice in the fact that private beneficence is doing so much in this direction. I have been studying the great work just about to be opened here in Chicago under the splendid beneficence of Philip D. Armour. I refer to that grandly equipped Technical Institute, built from the foundation on the kindergarten, just as every technical school should be ; for the kindergarten is the only true foundation for the arts and trades. Wealth thus used is the poor man's providence. Wealth thus used keeps healthy, and it keeps the community healthy. Let us see if this is not so. What has been found in regard to several thousand prison convicts in two of the largest penitentiaries of the East ? The great, salient, flaming fact is not that they cannot read and write ; not that they had not been to Sunday-school ; not that they were intemperate ; but the most common, the most generic fact is that these convicts *know no trade*, most of them being entirely ignorant of all trade knowledge. Few if any of our large cities have ever expended a dollar to teach a boy a trade. How much does it cost for criminals ?

Then, again, it has been carefully estimated that seven-tenths of the convicted criminals of the United States are persons who have never learned a trade or followed any industrial pursuit, and a very large proportion of these criminals are under twenty-five years of age. What a suggestive fact ! Does not public economy demand that something be done to provide facilities for teaching the young industrial pursuits ? They cannot become mechanics without the opportunities for learning handcraft ; and the training of the hand, as well as of the head and heart, should be begun in earliest years.

Idleness is the devil's workshop. Children are not depraved. They need wise care and training. The prevention of crime is the duty of society. Society has no right to punish crime at one end if it does nothing to prevent it at the other end. Society's chief concern should be to remove the causes from which crime springs. We may be very eloquent in pleading that punishments may be quick, sharp, and decisive ; that the gallows may have every victim that it claims by law, and that eternal vigilance may be kept on evil-doers. But all this will not avail.

Ruskin says truly : "Crime cannot be hindered by punishment. It will always find some shape and outlet unpunishable and unclosed. Crime can only be truly hindered by letting no boy grow up to be a criminal ; by taking away the will to commit sin, not by the mere punishment of its commission. *Formation*, not *reformation*, should be the watchword. Crime, small and great, can only be stayed by formation—education ; not the education of the intellect merely, but the education of the head, heart, and hand, which is the education of the whole man." We may make laws and constitutions on paper, but character is a growth, and to all growth belongs the element of time. Let the kindergarten become an

organic part of the public school system. Get hold of the children that go to make up our criminals at the earliest possible moment. (Out of nine thousand trained in our free kindergartens in San Francisco, we found only one arrest.) Read the testimony of one of our oldest and most experienced primary teachers in San Francisco. Superintendent Swett, in his last annual report, says :

"The training received in the free kindergarten schools is having a marked effect on the children that enter the receiving classes of the public schools. I asked Miss Agnes Manning, principal of the Webster School, one of the largest primary schools in the city, to give me a written opinion on this point, and received the following statement :

SUPERINTENDENT SWETT.

Dear Sir : I wish to tell you why I am so strongly in favor of kindergartens.

My school is in a crowded neighborhood. I have many children from tenement-houses, and from the narrow streets south of Market Street.

Before the days of the kindergarten these children, as soon as they could crawl, spent their waking lives on the sidewalks. From the age of two to six years they pursued the education of the street. The consequences were that at six they came to us with a fund of information of the worst description, and a vocabulary that might excite the envy of the Barbary coast.

At the commencement of each new year they tumbled over each other in their rude haste to take up the unexplored life of a school. They were in tens, fifties, hundreds, in our yards. The novelty being past, the hard struggle commenced of keeping them from joining the army of truants, and leading them into habits of work and cleanliness. When I made my appearance it was the signal for such asides as, 'Cheese it !' 'Lie low !' 'Here's the boss, kids !'

A freckle-faced, blue-eyed, innocent-looking boy would shock and astound us by swearing as roundly as a Nevada mule-driver. He had four years of street training, and it was uphill work to uproot the ill weeds so rankly sown, and a slow task cultivating a different and better crop.

The kindergartens have changed all this. They have taken the babies that used to be consigned to the curbstone, trained and guided them along a path of development. They have wisely attempted no cramming of the infant brain with premature scholarship. They have surrounded the young lives with a fresh atmosphere. They have passed the hours in pleasant games, taught a purer language, and led the little feet into a new civilization.

The children of tenement-houses and narrow streets still come in tens, fifties, and hundreds to begin life in a new school at the beginning of each school year. I hear no more, however, the wild phrases of the Barbary coast, or the mule-drivers' oaths. The little ones are clean, self-respecting, eager for knowledge. They have opinions of their own on many things, and are quite anxious to express them. They neither know how to read nor to write. They have been taught to see, to observe, to tell about what they see and hear. They have been taught to respect older people, to be honest, to tell the truth.

It is a rare thing now to find a child that does not know it is wrong to steal. If you meet one you may be sure he has never been in a kindergarten. It used to be a common thing to find *blasé* villains of six, who would steal anything on which they could lay their hands. They were always 'finding' their neighbors' pencils, sponges, strings, pictures, books, or stray toys. When caught in the act, they would grin in your face and tell you, 'Them as finds, keeps.'

I think you will now understand why I am so strongly in favor of kindergartens.

AGNES M. MANNING."

Dear friends, I have tried to show *why* the kindergarten should be an organic part of our public school system. I have tried to *outline the plan*. Let me briefly summarize. Take the very little child into the kindergarten, and there begin the work of physical, mental, and moral training. Put the child in the possession of his powers, develop his faculties, unfold

his moral nature ; cultivate mechanical skill in the use of the hands ; give him a sense of symmetry and harmony, a quick judgment of number, measure, and size ; stimulate his inventive faculties ; make him familiar with the customs and usages of well-ordered lives ; teach him to be kind, courteous, helpful, and unselfish ; inspire him to love whatsoever things are true and pure and right and kind and noble ; and thus equipped physically, mentally, and morally, send him forth to the wider range of study, which should include within its scope some sort of industrial training—that is, the putting of the boy or girl into the possession of the tools for technical employment, or for the cultivation of the arts of drawing and kindred employments ; and, still further on, the boy and girl should have a completed trade. Thus will they be prepared to solve the rugged problem of existence by earning their own living through honest, faithful work.

MODIFICATIONS IN THE PRIMARY SCHOOL.

Thesis : “ What modifications in the primary school are necessary or desirable in order to adapt it to continue the work of the kindergarten and reap the advantages of the training already received ? ”

DISCUSSION.

BY B. PICKMAN MANN, OF WASHINGTON, D. C.

THE most crying need of the primary school is the giving of an opportunity to the teachers to devote personal attention to the scholars individually. This need is to be met by confining the number of pupils under one teacher within such limits that there may be time to devote the needed attention to each. It is recognized that one kindergarten cannot properly take care of more than twenty-five children, and it would be better if she had not more than eighteen or twenty. It is widely recognized also that fifty or sixty children are too many to be cared for properly by one primary teacher, and that she could do much better with one-half of that number.

In placing the employment of more teachers first as a modification needed in the conduct of primary schools, I do not forget that quality is needed more than quantity. But I believe that the quality needed will come largely through the quantity. The teacher can do for each child more nearly what the child needs to have done for it. One of the important elements in the excellence of kindergartens is the ability of the kindergartner to give to each child the individual attention it needs.

While I believe that the present teachers are capable in great measure of much better work than they are given an opportunity to perform, I believe the qualifications of teachers are capable of great improvement. The kindergarten method is more than a practice ; it is a philosophy.

The greatest value of the kindergarten rests in the power the kindergarten has to develop the higher and nobler side of individual character and ability. This power comes from the conformity of the kindergarten practice to the methods of nature. Con-

formity to nature is more and more recognized every day to be the path of wisdom and of right.

If the kindergarten practice conforms to the method of nature, it should be continued so long as this conformity continues. As the child grows his needs and abilities grow ; but all growth is by degrees and not by leaps, so the transition from the kindergarten to the school should be gradual.

The child in the kindergarten learns and grows as he plays. He grows physically, mentally, and morally, while he plays spontaneously. His play is at the same time serious work, but it is not labor. It is good for him. It is healthful.

After the child leaves the school his development does not stop. If he has a fondness for business, for medicine, for art, for science, he pursues those avocations or studies diligently, and, as those who do not sympathize with his tastes might say, laboriously ; but he pursues them for pleasure. His work is play.

The art of pedagogy should be that which will adapt the supply of the needs of the child to the natural desires and disposition of the child. This necessitates the adaptation of the method to the individual, and the competency of the teacher to her task, and the liberty of action of the teacher in the execution of her task.

The fault of all schooling has been and still is, for the most part, that the schooling has not been carried on for its own sake. Secondary motives have been substituted for primary ones as inducements to continue in school. The children of a well-conducted kindergarten are impatient to be in the kindergarten. They plead with their mothers not to let sickness or bad weather keep them from attendance, and they are sorry when they have to go home, and say they "wish the kindergarten could keep all the time." Is it so usually with the school ? There may be teachers who so keep school, but such is not the rule. It is not always, if generally, the fault of the teachers that such schools are not more numerous. It is in most cases because the teachers are driven to force upon their scholars tasks for which the scholars are not ready.

The occupations of the kindergarten should be continued into the school until by gradual development the transition has been made from kindergarten work to school work.

The essential modification needed in primary teaching is not the addition of one or the elimination of another subject of study. It is not the change, in any general way, of the methods of teaching, although these, especially in teaching to read, are capable of great improvement in most schools. It is the awaiting until the child is ready to take hold of specific kinds of work before giving him this work to do. Meanwhile his education should be conducted upon the lines and according to the methods already found suited to his nature, so that he may enjoy going to school, and shall develop in the needed directions while feeling that he is but playing.

What are the daily and nightly labors of the physician who loves his profession, but play ? What is the reformer doing when he buffets against the waves of popular opposition, and mayhap suffers obloquy or death in behalf of his beloved cause, but playing ? Play is but the gratification of desire to accomplish certain work, and all human activity will become play and a delight when it is adjusted to nature.

The faults of our schools are largely the faults of our national life. There is too much hurry. Because children can be made to learn to read at five or six years of age they are driven to learn to read at that age, when they do not naturally develop to the stage at which learning to read is their need until they are seven or eight years old. When they should be filling their minds with observation of nature, they are driven to the acquisition of second-hand knowledge, which they are not competent to digest.

When Agassiz had his first class of students at his museum in Cambridge, he set before each student a pile of shells or a collection of fishes or some other subject of study, and told them to find out what they could about them by observation. He did

not give them text-books to read, with ready-made classifications, but set them to classifying for themselves. Their observations might be inadequate, their classifications might be crude; but whatever the immediate practical outcome of the study, the habit was formed to see for one's self and to think for one's self. Each of these students became a distinguished naturalist.

We know that some children have a natural fondness for numbers and measures—let us say for mathematics—from an early age; some children have an equal fondness for stories, not only for what they are about but for the way in which they are told—let us say for history and literature; others for form and color and their representations—let us say for art and architecture. Such children do not need to be driven, but only to be led in the direction in which they tend to go.

If we are justified in our attempts to teach mathematics to those who do not naturally or at the outset love mathematics; to teach history and a familiarity with literature to those who have no first taste for these studies, it is because we recognize, or at least believe, that the germs of love for these studies exist in every soul. If such germs exist, why should we not develop them naturally? Would we make a bean plant grow by seizing its stem and pulling it until it reached the desired length, or would we supply its roots with nourishment and its leaves with sunlight, and trust to the power within for the rest?

That our unnatural, unsympathetic method of schooling has not worse results than we observe, is due to the inherent power of the soul to resist distortion. The forces of nature prevail, as it is, to a great degree, over the artificial interferences of unnatural systems of instruction.

The function of the teacher is to lead and not to drive. Those only should be teachers who can lead.

Let us double or treble the numbers of our primary school teachers. Let us secure the best teachers for the youngest scholars, and promote teachers from the older to the younger classes. Let us give freedom to the natural teacher to carry out her own ideas, not aiming to run the schools as machines at the minimum of cost and the maximum of gross material ground out of them.

Then we may safely leave it to the practical teachers themselves to follow such methods as shall continue the work of the kindergarten in the schools, and reap the advantages of the training already received.

PREPARATION OF THE KINDERGARTNER.

BY MRS. LOUISA PARSONS HOPKINS, OF THE BOARD OF SCHOOL SUPERVISORS, BOSTON, MASS.

IN considering the preparation of the kindergartner for her work, we may regard the natural and unconscious preparation of temperament and organization, as well as the specific one of determination and training. Original gifts and organic constitution of mind and character are quite as important elements in the fitness of the teacher of little children as those superinduced by definite plans of education. The idealistic temperament with the practical habit, the clear mind and the sympathetic heart, combine to make up the best equipment of organization for the kindergartner.

This condition of heart and mind seems to me the primary qualification

of the kindergartner. Notwithstanding all the logic of heredity and environment, to discern the essential coming of God into every life at its advent; to hear God saying, "All souls are mine," even amid the renewed assumptions of philosophy and the clamorous demands of the new science of evolution; to be able to recognize every child as *first* the child of God, with a divine soul ready to germinate within him, while wise men are proclaiming him not only the child of man merely, but the child of the beast, the child of protoplasm, the child of chaos—this is to prove one capable of knowing and helping the child in his onward growth. The divine relations of childhood should be clearly seen, and without shutting one's eyes to the complex relations into which his human descent places him. But in the whole commonwealth of childhood, repeat no more the proverb that humanity is evolved from what is below, and not from what is above. The spirit of God in its germinating force has been placed within all matter, only to assimilate it to its growing uses and make it a temple of God.

Whether this transcendent harmony of the whole nature be the result of training and experience, or the happy balance of native gifts and graces, it is the preparation which the kindergartner cannot do without, for it determines her essential attitude toward her work. It is the motherhood of the calling, and expresses the calling itself. It is the preparation of the spirit, and vastly more essential than that of the letter or the technical form in which it is embodied.

Every normal school should be furnished with a kindergarten department, equipped with a model kindergarten, where the complete theory and practice may be taught by masters and mistresses of the subject. We must demand at the outset that no charlatans shall administer this profound philosophy, no ignoramus or superficial student shall presume to handle these vital elements of learning, and no mere wage-earner be allowed to conduct the little child to this freedom of development. Is it too sanguine a prophecy that the educational science of Froebel shall ere long be represented by the university chair, and the study of the education of man be thought worthy of the highest degree in a professional training?

In considering the second point of the thesis, we may allow that all kindergarten teachers are not necessarily kindergartners. There may be much pleasant and useful help given by sympathetic persons of an ordinary degree of general culture. The plays and games are the brighter for the vivacious and intelligent participation of some young girl fond of children and not too far removed in age to be accepted as a playmate as well as director of these exercises. A knowledge of the mechanical part of the games and occupations, with a spontaneous interest and sympathy, is a most valuable qualification for a helper to the professional kindergartner. I think when the kindergartner is best fitted for oversight and not for too constant active participation in the games, such an assistant is quite necessary. I like to see the younger students of the normal class entering into the

active exercises of the kindergarten, which their graceful movements and spontaneous playfulness enliven, while their knowledge of the routine is shown only in their happy freedom with the children who look to them as leaders. This, too, is a part of the preparation of the kindergartner, and should be in the hands of intelligent and well-informed students.

These teachers, not yet qualified as principals, may be in training for the general examination in secondary studies, and may be working as assistants while progressing in their preparation as principals; or, if they aspire only to the position of helpers under the direction of a principal, they should be required to pass only an elementary examination in branches of study, provided they manifest the right spirit and a love of children. But for such as aspire to the charge of a kindergarten, the culture of the high-school course is not too much to require as the basis of professional training. The morning talks will tax the widest resources of learning; to answer a child's inquiries and lead him to ever opening vistas of observation and discovery, calls for the highest culture in natural science as well as in all the relations of human activity. When we see Froebel sitting down with his treasures of university erudition to open the mental vision of twelve little children and feed them with the bread of life, we catch a glimmer of the light that he deemed the birthright of the poorest child. After such a glimpse of the measurements of the master, can we set up a narrow gauge for the kindergartner in either power or attainments?

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KINDERGARTEN AS A BASIS FOR LIFE.

BY FRAU HENRIETTA SCHRADER, OF BERLIN.

[THIS PAPER WAS TRANSLATED FOR PUBLICATION BY AMELIA HOFER, OF CHICAGO.]

To my mind it is a vital mistake to consider the kindergarten, as is too frequently done, as a preliminary step toward the school, and to see its plan of work, its methods of occupation and development, merely as a preparation for primary instruction.

Too great importance has been put upon school training in our time, which has been given a prominence far out of proportion to that accredited to the home training and to the family influence in public education, and this in spite of the unsatisfactory results so far attained.

Indeed, the whole scheme and character which is commonly understood to comprise the kindergarten, does not seem to me to express Froebel's idea on this all-important subject of "How shall we train little children?" However important Froebel considered the school in its totality and its influence upon the child, and although his sentiments in regard to education as expressed in the organized school and methods of teaching are

most impressive and earnest, as embodied in his great work, "*Menschen Erziehung*" (Education of Man), he still gives the foremost place in his educational theory and practice to the family thought as expressed in his book, "*Mutter und Kose Lieder*."

The ever-increasing experience of Froebel, as he came in contact with many families, taught him that parents are far from fulfilling their obligations, and in his deeply significant paper, dated 1836, called the "*Renewing of Life*," he calls out, full of spirit: "In the family environment alone, man reaches that point which causes his soul to radiate and his life to be fulfilled; but even then is this accomplished only as the family recognizes itself a medium of love, light, and life. The keynote for a higher plane of human development can only be sounded when man is seen as one member of an organized whole—a unity made up of many members."

Once more Froebel deliberated, looking back over his accumulated experience and asking himself seriously this question: "Can family life, the home environment, satisfy the high demand of the present stage of human development, in order that it may reach unto and culminate in an ever renewing of life?"

Answering himself earnestly and conclusively, he said, "No." He turned aside in 1836 from his previous efforts in connection with schools and the training of boys; he must search out new ways in order to reach a more certain and rational education. And now he comes upon his kindergarten. In a public call sent out in 1840, we find that he by no means considered this merely as an institute of learning, but that he demanded a complete development, fitted for all life, for those who were to lead little children.

He demanded a union of practical power to do, with scientific knowledge, for the true development of the child. He looked to the womanhood of Germany to found his ideal institute, but they did not yet understand him. The essential means with which to establish a training-school for the guardians of children were not forthcoming, and he must needs be satisfied to open the work along its several lines rather than produce it at once as a complete organization. One of these lines was the kindergarten, and the training of worthy kindergartners to be worthy assistants to the mother, as well as prepared to be the future mothers of children; and in this way he determined, little by little, to elevate the entire family culture.

Out of this struggle and ideal he produced the "*Mutter und Kose Lieder*." He spoke the inclusive words: "The family of the new time must behold itself a unit," and this thought still overflows with meaning for us all. It is emphasized and enlarged upon in his "*Mother Play*" songs. The very labor which provides physical comforts to the various members of the family, and which falls chiefly to the hand of woman, is

constantly bringing about right relationships. Even though the family circle be a limited one, it is brought into contact with an ever-increasing larger circle by force of natural and mutual needs.

Family consumption as well as production weaves many threads in and out between the various members and the head of the house, and again between the house-mother and the great outer world. Formerly it was customary to think of these relationships only from the standpoint of securing advantage to the family; cheap labor for the home, close marketing, even though at the sacrifice or suffering of others, was still recognized a mark of good housewifery. In the case of man's choice of occupation, the important consideration was whether it would bring safe provision. High wages were desirable, even though others struggled and suffered because of the discrimination. In the training of children, the most conspicuous principle was to preserve them from mistakes and trials, and, as was said, "care for them all as to their external needs."

As a consequence, the ego of the individuals reached no further than the ego of the family; and the latter entered into no living conscious interchange, such as giving and taking, with the other factors of humanity. The entire social structure supported the tendency of the ties; many families there were who remained forever untouched by outer social or political relationships. A change came, however, and Froebel clearly foresaw the coming condition. He recognized that the ever-increasing conflicts between classes and stations of humanity could not be remedied through external law. He saw that the bonds could only be released through spontaneous deeds of loving fellowship, to practice which the true family environment must be reinstated as a unity, serving best when seeing itself a member of a still larger circle. In the family relationship, with its varied and responsive duties, is found the embryo of all phases of later development. Wherefore it is a firm fact that all organic life, from the smallest beginning, unfolds itself to the greater, however magnificent it is to become; and this law of nature must be applied to the individual human life as well as to that of the whole human family.

The training of the power of will rests upon a gradual exercise of the same, beginning with the young child. It is for this reason that efforts along intellectual and industrial lines, however progressive, have failed to bring the joy and satisfaction which they should, and which they do bring when knowledge and ability to execute are joined hand in hand with man's ethical inclinations.

Individual development must always be joined to an activity the fruit of which is consecrated to others. In this way only can be preserved to child-nature room for the interest of others. The child may begin early to mediate and bring together such warring factors as self-support, self-assertion, simultaneous with self-giving, and so establish a harmony and equality.

This can only be brought about in the family environment, or in institutions where the home spirit prevails. The pivot of the family is nurture—the nurture which brings consideration to each individual member both for soul and body. There is no other condition than that of the well-ordered home center which makes this possible—a home center, the soul and heart of which is the home-keeper, the mother. Her duties are by no means limited to housework, absorbing her full time and energy; and still it were unnatural if she did not thoroughly understand all those many practical things which become the essentials of a true home. She should know the ways and means in order to be free before her servants, in order to influence all her co-laborers properly, and be able to fully satisfy the daily needs of her household.

To properly fulfill every duty of a small home circle gives opportunity to each child to contribute in some degree to the real comfort and value of the home, and at the same time to supply scientific knowledge and engender ethical power. Here the child is brought close to nature and true industry, not from the standpoint of intellectual gain, but through a spontaneous willing in accordance with ethical law.

It is vital and essential that we should recognize the care for plants and animals as a part of the household environment, and in order that the educational opportunities and advantages of family surroundings may be fully appreciated. It was this for which Pestalozzi so earnestly pleaded. The natural standard for such environment in which to develop through normal activity is the German family, which is neither in bondage through great poverty, nor yet swept from its moorings by an overflow of riches.

In a large establishment, with its many servants, where parents are pledged to important social duties, the children should still be granted a small household circle of their own, with proper attendance, wherein the mother shall take part as much as is possible, and wherein the father may find a salutary resting place after exhausting service in the busy world. Let us but once recognize home activities as an important educational means, and proper surroundings to secure the same will be speedily provided.

There is no more harmful movement in modern evolution than that socialism which demands the dissolution of the family, or which interferes with the organic necessity of man's truly living and expressing affection in the human family. By so doing, the very foundation upon which rests a unified development of the child's soul and body is destroyed, as well as the only means by which his spiritual power may be completely unfolded, and also that environment which is its best nourishment, since it provides spontaneous instinctive moral action.

In the face of such statements it is sometimes argued that machinery is snatching the work out of man's hand, or is condensing the duties of the household to a minimum which could scarcely suffice to serve as an

educational factor. Machinery releases man more and more from the drudgery of labor; but however wonderfully it be built to serve so wonderful a purpose, none has yet been found who can breathe into its wheel-work the spirit, the love which prompts care-taking for another and which satisfies the needs of fellow-men. Thus, in spite of all inventions, there still remains a remnant of noble duty which the individual human being must still fulfill.

No school, no academy, however high it has reached into science or art, can provide mankind with the ethical nurture which is derived from daily participation in fellow-service, or in loving contact with nature, or the self-won fruits of true industry.

By nature, by instinct, the physically and morally normal child is eager to be of service. But how little is this impulse within him fostered or nurtured! The practical educator does not turn his face in the direction of this mellow soil, or of this fructifying environment wherein to truly cultivate the child. Long before Froebel, Pestalozzi, with all the might and impetus of his genius, pointed to this great fissure in school life; and Froebel presented the same thought in his own way in the "Mother Play" book.

In this book we find an illustration of the little gardener, to which he attaches this motto:

"Wouldst thou the childish heart unfold?
Close to the nurture of life him hold.
Wouldst thou prepare him to cherish and love?
Show him the joy which such nurture provides."

In what other sphere than that of the family may the child find the soil for such growth, unless it be in institutions where the family training life is made the basic principle? The child is a complete being, and he must exercise his love, his interest, and his nurture among wholesome and satisfying beings, and in a loving, personal companionship.

This was Froebel's preëminent purpose in establishing the kindergarten, as he has clearly shown in the "Mother Play" book. The noble, normal family was the type for his kindergarten, which, in turn, he would have become a living model for the true family; and it was thus through him that womankind was awakened to the privileges of spiritual motherhood, and nurtured and developed to a new sphere of activity in the family as well as in the community, the school, and state.

Let us turn to the picture of the "Flower Basket," where Froebel, agreeing fully with Pestalozzi, shows the inner relation between mother and child as the only true center and germinal point from which all human relationships radiate. The mother places the child in his right relationship to father, to sisters, to servants, to nature itself. The father of the house, whose business interests prevent his coming so closely in

contact with the family, seeks peace, pleasure, and happiness in the heart of the home, and here gathers new forces that he may fulfill the arduous labors and struggles of his professional life. Infinite is the power held in the hand of mother and child to provide him the joy and comfort of life, and send him out to carry into the great world of that precious store which has been garnered in the small family circle.

The mother leads the children to appreciate the father's faithful labor for them, and to sympathize, in their own way, with the larger scope of his life. She directs them to contribute to his comfort in the home circle; even the smallest child that can do no definite work with its hands may still do great things for father. It may exert its full strength to fashion a basket which mother fills with fresh flowers for his delight. No man can do more than pour his whole strength into a loving deed. Therefore this child has accomplished the greatest. Froebel made his starting-point this exquisite sentiment: that childish doing for others must first and foremost be connected with the child's inner and natural impetus or inclination, so that in time the affection which prompts his deeds for others may become habit.

STORY-TELLING IN THE KINDERGARTEN.

BY MARY T. HOTCHKISS, OF MILWAUKEE, WIS.

Thesis: What should be the character of the stories told in the kindergarten, and to what extent should stories be told?

NATURE is the universal teacher of mankind. Her instruction has been at all ages, in every clime, at every period of the world's history. Her topic is the universe—the subject-matter, therefore, inexhaustible. Her books are found everywhere, her pages are always open, her instruction ever close at hand. Much of her teaching is given silently, though she speaks in the songs of birds, the sound of waters, and the roll of thunder. As nearly every educational theory has its symbolic representation in nature, this one of story-telling is especially seen. In every aspect of nature, whoever is in harmony with her and “holds communion with her visible forms,” to him “she speaks a various language.” The dainty flower growing by the wayside tells its story of beauty and love, and is fragrant with the secret of its growth and brightness. The trees swaying in the breeze tell their story with a hundred tongues; a tale of joy in living, a tale of sunshine and shadow, like our lives. The river smiling in the sunlight tells to listening ears, as it passes singing on its way, a tale of sun-kissed waves, of turbulence and peace, of ebb and flow. The stars, the “forget-me-nots of the angels,” shine forth their story of wonder and mystery, of light and beauty, of divine power and love. The sunbeams

dancing gayly at our feet tell to "hearts attuned" of renewed strength, of light and life. The silvery clouds sailing across the summer sky are speaking to us of shining raindrops, of shade from the noonday sun, of the love of the Creator in planning all things for our good.

Froebel's mind grasped the story of the flowers. He says: "From the star-shaped blossoms I first learned to understand the law of all formation, and it is no other than the reconciliation of opposites; and a humble little flower taught me divinely to interpret the secrets of existence, the mysterious laws of development."

Besides this—a *natural* reason for stories—others are equally important. The early race was educated by myths and legends, and each child follows the development of the race. Every child loves stories, and what is loved by the universal child is necessary for his development. "As the flower longs for sun and light and air, so the child longs for stories." Stories are the means of encouraging ideality, giving lofty aims, high aspirations, beautiful views of life and duty. As has been said: "Good stories well told are to children what excellent sermons are to their elders."

All great truths can be told to the child in parable form. All scientific, philosophic, and moral truths can be taught. Many of our standard literary works can be adapted for children's use. There is scarcely a topic in all this wide universe that cannot be introduced in simple story form. Still another reason for stories: Nothing more strongly exercises the imagination, that all-important faculty of the mind, doubly important in this our practical age and country. A writer has said: "I would rather have a child unalphabetical than unimaginative."

The stories may be divided under two general heads; those that are literally true, and those that are symbolic representations of the truth. Under the first would come stories illustrating moral truths, biographical or historical incidents, stories of changes in nature, stories of animal life. Under the second are found fairy tales, fables, myths, legends. Froebel thought that the child, as a member of the human family, should be told the stories of the various Christian holidays.

The question is often asked, Are fairy tales good for children? Most certainly they are. A love for the beautiful and wonderful is inborn in every heart; and, to quote again, "to cultivate the imagination and poetry of the soul is one of the solemn duties of life." Those who fail to see the beauty and worth of fairy tales do not look beneath the surface for the deep truths contained in them.

Fables are good for representing moral truths. Stories of animal life create a love for all lower animal creation; teaching kindness and gentleness, subduing that cruelty which is occasionally seen in a small child (generally a boy), and which must be the inheritance from barbarous ancestors. Legends are valuable, for they form "a bridge which gradually leads the child to the real enjoyment of history, and puts him in

sympathy with what is going on in the present." Following Mother Goose's example, occasional rhymes are enjoyable, and produce a greater effect.

The following suggestions have been given regarding methods of telling stories. The younger the children, the greater the difficulty in telling the story, and the greater preparation required; for them an easy plot and a short thread of circumstances are necessary. Be explicit; give a name to everything. Use the tone of voice necessary to the circumstances, and change the tone to suit the occasion. Have the story as graphic as possible. Have clearly in your mind the object of your story; then adorn with details. Let the story depict virtues to be emulated rather than vices to be shunned. Emphasize the positive rather than the negative. Tell the best stories repeatedly, rather than frequent poor ones. Take great care to repeat the facts the same each time; otherwise we cannot estimate the confusion arising in the child-mind. Do not have the child feel too deeply over imaginary woes, for "overtaxed intellect brings on disease."

Most important of all, be sure that your stories have a happy ending, for the child's moral being is largely affected by these endings. "Harmony in music is only attained when each individual instrument expresses its peculiar sound perfectly." So in a story; the aim is reached only when each part receives due emphasis, and the relation of incidents is clearly seen. "No future can be interpreted, except in the light of the past." Stories must in some way be connected with the past life, that the child may realize their worth and take them to himself. Stories should be told in the purest English, with careful enunciation. With the child-mind in the receptive condition caused by joyful anticipation, the teacher cannot be too careful of all the details connected with his art. The beauties and possibilities of the language are shown to the child, representing to him the art of speech, and giving him a taste for good literature.

Other qualifications of a good story-teller are "culture in its truest, broadest sense, meaning education, refinement, ideality; to see ideally humdrum facts; fancy to embellish these facts, so that some principle may be impressed on the child; to make common things beautiful with poetic ideas and symbolic truths; then, lastly, to have sufficient *common sense* to keep one from extravagance."

One great danger of children is confounding the real and the fanciful, by which the whole aim of the story is lost. We must enter into the child-world, and become one with them; must see with their eyes and hear with their ears. No story is effective if the child shows no enjoyment of it. This, however, may not be the fault of the story, nor of the child. Children are the severest critics, and the beauty of their criticism is its spontaneity, though it is sometimes too truthful to be flattering. Dramatic power is one of the most essential things in a good story-teller—who is a

“king among children.” If there is a river in the story, see it flowing at your feet. If there are horsemen, watch them disappearing over the hilltop. If flowers are growing, look with pleasure in your face at the beautiful blossoms along your path. If birds are singing, incline your ear and let the eye tell the happiness with which the song fills the heart. Eye, tongue, hand, must all express each emotion, and the children will be carried with you into unknown countries, to ramble with you among new wonders with never-failing delight. A new world is open to them, and each is a little Columbus, bent upon discovery. The unexplored realms they enter are as strange and varied as the new continent of the fifteenth century.

The results of story-telling are so great and varied that they are beyond our comprehension. The child's three-fold duties are taught—to nature, to humanity, and to God. The feeling of unity with all creatures is impressed. It is not always necessary that a story should point a moral. Wholesome nonsense is essential to human nature, as is proved by the fact that Mother Goose rhymes have for so many years given unbounded delight to children. “A little nonsense now and then” is very beneficial, and great men have felt the need of the humorous side of life to counteract the many serious aspects which matters assume. Talleyrand said: “I find nonsense singularly refreshing.” The chief danger of nonsense is its tendency to develop into grotesqueness, thus lowering our ideals and making the good and the true ridiculous. Great care should be taken that the moral sense is in no respect blunted, nor ideas of right and wrong in any way perverted. The children must be taught indirectly to know the pure, harmless fun which is the result of happiness of heart and exuberance of spirit, from the spirit of ridicule which laughs at others' mistakes and finds pleasure in others' misfortunes.

As a nation we are criticised for our irreverence; irreverence for sacred things, for tradition, for all that is best and highest in life. Prophets tell us that this alarming tendency of the present generation will do more than any other one thing toward undermining the foundations of society. The only remedy for this evil is to help little children to have a high regard for all that is above them—for their parents, for all religious truths, for every great and good action, for every beautiful thought. Stories inculcating these ideas should be given, of great men, as of Columbus, Washington, and Lincoln; of noble deeds, as of Grace Darling; stories of the wonders of the stars, telling of things above us and beyond us, calling forth our highest admiration and praise.

Many of us walk through life like ghosts, as if we were in the world but not of it. “We have eyes, but see not”; for “to look is much less easy than to overlook.” We have no eye for the beauties around us, no ear for the harmonies of nature; and so much of the real meaning of our lives is hidden from our view because our early education was in so many ways

one-sided, and so much was left unexplained that we needed to know. Let us in our stories spread before the eyes of our children the scroll of nature, revealing some of her mysteries, showing her beauties, telling the secret of her operations, that their lives will be worthier of the high aims in view, that their knowledge of nature may lead them to truer self-knowledge.

TO WHAT EXTENT IS THE USE OF SYMBOLISM JUSTIFIABLE IN THE KINDERGARTEN?

BY EARL BARNES, PROFESSOR OF EDUCATION, LELAND STANFORD JR.
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THE use of anything in the kindergarten would seem to be justifiable just so far as it is in accord with the nature of the children in the kindergarten. Those who approach the child through the medium of experimental psychology will always be tempted to dwell on his physical and sensuous activities, because these most easily admit of quantitative expression. On the other hand, those who approach the child from some philosophical or theological standpoint will be always tempted to read into the child's simplest activities all that they have imagined or dreamed in their philosophy.

All that can be done in this brief paper is to present in bald outline some of the questions and suggestions that present themselves to the experimental psychologist.

The most striking characteristic of a young child's subjective activity is the fragmentary and disintegrated quality of all his intellectual operations. His subjective world is a chaos. Instinctively he strives to unify and grasp this multiplex of sense-stuff that pours in upon him. One of the first steps in this unifying process consists in fastening names on to the things or impressions which crowd upon him, so that he can afterward recognize them as the same impressions already recognized. You will all recall Miss Sullivan's account of the eager delight of Helen Keller when she first found that things had names. At one stage of his development the child will weary every one about him with his reiterated demands: What is this? What is that? Is not this a natural seeking for a symbol which shall enable him to identify a particular impression, and so far enable him to unify his world? The Chinese in their written characters go but little farther than this.

The child, however, soon reaches out for larger groups. He feels the necessity of larger general terms, where the one term will grasp several objects, and he demands, Whose is this? Where did it come from? What is it for? Is this a picture, too? etc.

In this search for symbols to identify and unify his manifold sense impressions, he accepts words, terms, and signs that are offered him, and invents many more for himself.

One child uses "goo" for almost any movement, and with another, anything to eat is "to-to." In addition to this audible symbolism the child develops a visual symbolism for himself. At an early age a child simply rubs pencil on paper and tells you of men and houses and bears which the scratches represent. In his early school life he quickly accepts a visual symbol and applies it to everything. In a number class, one teacher made a simple figure in a sun-bonnet. In a few days the children drew their men and boys and girls all after the one pattern. They had simply accepted the symbol.

Now this tendency on the part of children to accept a sign for a thing in order to unify their world, seems to me the basis of our work in symbolism. Another fact in the

child's subjective life emphasizes this. His images are so vague and indistinct that his fancy is wonderfully free. He can see a house in a picture of a fence, and he can hear singing birds when the frogs croak. This is not, I take it, because his soul is so wonderfully susceptible to singing birds, but because his ideas of singing birds and of croaking frogs are so vague and ill-defined that he cannot easily label the one or the other when it appears.

Now a philosopher, or an imaginative and sympathetic teacher, can easily find in these imperfect subjective activities, due to the limitations of a child's mind, evidence that the young child sees in each little thing about him, or may see, a microcosm ; and so we work out elaborate systems of symbols that shall realize to the child the infinitely great in the little. He shall play with the ball, that he may quickly realize the perfection of the sphere.

This seems to me a field that would yield valuable results if approached from the standpoint of the simple investigator.

Could we not make lists of all the visual and audible symbols that the child develops for himself, and thus determine along what lines his symbol-developing tendency moves ? Could we not test the readiness with which he accepts even the most grotesque and ill-related symbols if we impose them upon him ? And could we not devise tests to show the extent to which the child grasps, for instance, the symbolism of the sphere ?

Is it not an over-devotion to symbols on the part of our kindergartners which makes it possible for us to come together in this international congress to seriously discuss whether the plays and games which Froebel developed out of a German environment some decades ago should be modified for a California child who has never seen snow, and to whom much of the concrete detail in the setting of the German life must remain to him unexperienced for several years ?

TO WHAT EXTENT IS SYMBOLISM JUSTIFIABLE IN THE KINDERGARTEN?

BY MRS. EUDORA L. HAILMANN, OF LA PORTE, INDIANA.

BEAR in mind that the kindergarten proper is for children from three to six years of age. Let us therefore consider the condition of the child at this age—some characteristics that mark this period.

For a really scientific presentation of the subject, it would be necessary to follow closely the process in the development of the child during the three years preceding the age under consideration. We shall, however, be obliged to pass rapidly over the first three months of the babe's awakening into this spiritual world of natural law ; over the first year, during which he has been learning to adapt himself, in baby fashion, to the immutability of law ; over the first two years, when, a wee toddler at the beginning of a long journey, he longs with a passion worthy the scientist to investigate hot coffee urns, forks, scissors, and the like ; whence he has emerged serenely and undaunted, though perhaps battered and bruised, a wise and knowing baby ; on and on over the months of rapidly accumulating experiences and constant unfoldings of new and varied facts of individuality, to the period of first independent association with equals—usually placed at about three or four years of age.

This is the period to which my subject, "To what extent is symbolism justifiable in the kindergarten ?" refers. It gives me great pleasure, therefore, to introduce to you the child of three to six years of age ; the little child who is just emerging from unconscious, dependent babyhood, into conscious, independent self-assertion, in search of

anything and everything that this world has to give him. He helps himself to everything without stint and without judgment; the one consideration with him being that, *at the moment*, it be agreeable.

From morn till night it is: "May I have some?"—something, anything. "Mamma, what did you do that for?" "Can I go and play with Harry and Bessy?" Not only is he an interrogation point, as some one has said, but he is first, last, and always a potential workman in this busy life, a truth-seeker in embryo. Alas! however, that his questions are so seldom answered as they should be, for in that measure in which questions are answered will the child grow. The answer to a question contains both the germ and the food of the next immediate individual tendency. At this stage of development the whole being seems to be concentrated upon the one activity of getting experiences and gathering data out of which to draw conclusions and regulate his judgments in later life. This phase of his mental development seems to predominate.

All phases are, it is true, potentially more or less manifest, but the eager, restless determination to accumulate facts, through personal experience and direct first-hand observation, predominates during the period from three to six. Again, it is a prominent characteristic of this stage of development to trust implicitly those who are older and occupy places of authority. When, therefore, a child asks questions of adults and receives no answer at all, or, what is worse than no answer, is told some grotesque falsehood or receives some fantastic reply, the seeds of moral deficiency of character are sown. Saddest of all, confidence in the genuineness and righteousness of mankind is broken and lost, for children see all people through the family and other immediate surroundings. It is only after many years of undoing that the ability comes to judge objectively and with approximate correctness.

During these three specially sensitive years it is, therefore, of vital importance that all impressions be pure, clear, direct, and full of meaning. The brain is more susceptible, and, at the same time, much more active, hence much more intensely conscious, both instinctively and intentionally, clinching every new sensation and impression that comes to it, for the purpose of making use of it in giving expression to its own individuality, which has become so firmly rooted in the loves and lives of his environment. Especially, therefore, is it desirable that the thought-centers, for this period, be full of instruction and abound in beautiful sentiment, for—

"Early lessons gently taught,
Simple words with meaning fraught—
These forgotten for a time,
Will come back like a well-known rhyme."

This is the time to begin to lay up treasures against the possible *ennui* and infirmities of old age.

Normal, vigorous children of this age do not speculate, do not dream day-dreams, do not see sprites in the lily nor ogres in the dark, *unless they have been put there by older if not wiser heads*. Their eager, active, healthy minds and bodies are too much absorbed in the immediate interesting beautiful wonders that surround them. There is no need to stimulate their love and admiration for life by artificial means, and they have not reached the contemplative, speculative age of abstract thinking. To force this upon them at this period of development is to make them precocious, and precocity is degenerating.

Children of this age will play all day with pet animals, observing and imitating every living thing that comes within their reach. Little boys will play store, street-car, etc., dig, haul, push and pull; while the little girls with hollyhocks for babies, nut-shells for cradles, daisies for grandmothers, and maple-leaves for parasols, will play at time-honored "Lady come to see," with never-ceasing enthusiasm. These manifestations of the child's imaginative activity give us the cue to the kind of symbolism that is suitable for the child from three to six years of age.

The child, if left to himself, will discover symbolism in nature. When it is given to him ready made, it has the tendency to render him superstitious, credulous, and superficial; glib-tongued but not really intelligent, because, not having made use of the faculties whose special function it is to relate symbolism and natural phenomena *at the time* when these faculties were in their germinal stage of being, the power has gone by, and a pleasurable sensation is produced upon him, not so much at the symbols themselves as by the love he has for those who, in their impatient zeal to help the child realize God in nature, would stimulate the poetic sense innate in the breast of the human being by an arbitrary symbolism, thereby sacrificing the child's power to discover for himself the relation between symbolism and natural phenomena.

Wherever the kindergarten makes its appearance, there we may expect to find among the children a tendency toward many words and few ideas, in strong contrast to the lines quoted:

"Simple words with meaning fraught."

I have in my mind a number of examples of this kind of teaching. I never visit kindergartens without being convinced of the injurious effects upon the children of an overdose of fairy stories and stories in which symbolism is overdrawn. That parents and kindergartners do not see the evil effects, is no sign that the harm is not being done. The result shows itself later on in life.

I remember particularly one little girl, the daughter of literary and devoted parents, both of whom had made a study of the kindergarten. This child was a little more than four years of age when her mother brought her to me, saying: "My little girl is far in advance of children of her own age because we have always kept her with us. I should like sometime to have you hear her recite some poems which I have taught her. She will improvise by the hour most charming little fairy stories in which she will people the furniture, walls, and even the parts of the room with fantastic creations of her brain." The mother accounted for this by the fact that she had always tried to have her little daughter see the symbolism concealed in every concrete manifestation of the divine mind; that in her conversations with her little girl she had always given her two meanings to words and natural objects, viz.: the commonly accepted name itself and its symbolic significance.

The time came for me to hear the little girl recite. From beginning to end the little four-year-old recited, without one word of prompting, "Paul Revere's Ride," with as much expression as we might expect from the original reciter of the story. When she had finished she gave a little spasmodic sigh of nervous fatigue, and I detected an unnatural expression in her large brown eyes. This same child would sit at the kindergarten table, with other children who were busy and happy at some creative and constructive work, and with her hands folded and eyes vacantly staring into the distance, she would suddenly, to the amazement and consternation of children and kindergartner, sing out in a plaintive sort of tone a string of pretty words with no more logical connection than there is between a rock and a butterfly.

Another example will serve to illustrate my point. The following conversation took place between two kindergartners. While I took no direct part in the discussion, I listened with a great deal of interest, for the young lady who was defending a rational, natural method was the very embodiment of religious enthusiasm and had been remarkably successful in leading many children through the material into a spiritual attitude of soul. First kindergartner: "Our games are different from all others. Our words are usually original with the kindergartner's ingenuity, assisted at times by the children. They are, for the most part, descriptive of natural phenomena, as, for instance, crystallization, evaporation, freezing, radiation, and so on. The children, in these games, personate the particles of matter in their activities. They are in turn particles of snow,

the game being to form themselves into snow crystals ; or in portraying evaporation, some of the children are clothes props, and stand with arms extended to support the drying clothes, while others are the dancing sun rays that kiss the particles of moisture and bear them away to the blue sky beyond."

"But," said the second kindergartner, "while no objection should be made to a natural and agreeable way of scientific instruction, notably through plays involving scientific truths, still it is necessary that we should be absolutely true to fact. And it is not always possible to imitate natural phenomena with the movements of the body ; and if it were, it is a very clumsy and unpoetic representation of a marvelously exquisite phenomenon. In the case of evaporation the particles must fly upward, in order to be true to life. Sunlight does not dance but radiates. In regard to the kissing of the particles away, this may be a pretty poetical conception, but should not be taught as a scientific truth, nor along with a scientific truth. It endangers the child's intellectual integrity to confuse symbolism with scientific truth. In short, especially in intercourse with children, I believe in calling a spade, a spade."

Greatly moved, the first kindergartner replied : "How different you are from us ! Now, when we speak of a frozen brook we say : 'The water is asleep' ; when the wind blows the branches of the tree we say : 'It whispers to the leaves' ; and when in autumn the leaves fall to the ground, we never say that they drop or are blown from the tree, but that 'Mother Earth calls them to cover her baby roots and help keep them warm while they are asleep in their little brown bed waiting for the brook to wake up again.'" (In other words, during the winter time.) "Oh, no," she added, with a sudden burst of eloquence ; "*we never call things by their real names.*"

This is no effort of the imagination ; the conversation really took place.

Another phase of the use of symbolism at this period is the practice of abnormally stimulating the imagination. For instance, the following highly wrought scheme for developing the Christmas idea was presented to an audience of teachers. "After leading the children up, through innumerable carefully planned steps, to the Christmas thought, directing their minds, absorbing their sympathies in the one direction, the climax is reached when the children are about to be dismissed for the Christmas holidays. They have listened to stories (and always thanked their teachers when stories were told them), and on this particular occasion they will hear the Christmas story that is told every year." It is not, however, the Biblical account of Christ, but a fairy story, intended, no doubt, by the writer to convey the essentials of the Christ story. The exercises take place in the afternoon. The room is darkened, save for the flickering firelight ; the children are gathered in a circle around the kindergartner, who in solemn and awe-inspiring tones now tells the story.

Let us picture that scene. A large class of poor children, the offspring, in the majority of cases, of superstition and unreasoning fear, easily awed into any state of mind ; a darkened room, in itself unnatural in the day-time ; flickering firelight, subdued tones, fairy story. Age of subjects, *three to six* ! And all this done for the sake of making a deep impression upon the children ! This in some lands might be called a species of voodooism, and reminds one of a spiritual *séance*. This matter of dealing blindly and recklessly with the young child's imagination is a serious thing, and we kindergartners should beware of entering in where angels fear to tread. A child is a delicate creature, and while it should have every care and tender nurture, still, just as in plant life sometimes a touch, though lovingly given, will destroy the delicate leaflet, in the child also there are some things which to touch is to destroy. They must be allowed to grow toward their Creator, until the fullness of their time.

Regarding the question from the poetic side—should we cloak the manifestations of nature in language other than their own ?

The symbol is beautiful, but so is the *fact* beautiful. Whispering winds, singing

brooks, sleeping waters, smiling sunshine, are pretty; but so are plain wind, flowing brooks, frozen waters, sunshine, in themselves beautiful, *and children think so.*

What is more poetic than the "wind bloweth where it listeth, and thou hearest the sound thereof, but canst not tell whence it cometh, and whither it goeth"? Not one word of figure; the simple statement of a beautiful thing in nature is itself suggestive. The Great Teacher seemed willing to call things by their right names.

"Consider the lilies of the field, how they grow; they toil not, neither do they spin; and yet even *Solomon in all his glory was not arrayed like one of these.*" And shall we *paint these lilies* before we show them to the children?

There is current a plausible doctrine, that in each child are repeated the characteristics of the race.

This statement sounds very fine, and if not turned and twisted to mean more than a mere fact it would not be necessary to refer to it here. It is needless to deny or affirm a fact so well established as this, but it should be remembered that these earlier stages of development through which the child must needs pass are meant by the very laws of evolution to sink into rudimentary conditions—into innocuous desuetude, as it were. To emphasize them must result in arrested development and retard the progress of the race.

If they are considered at all in educational work, this should be done in a way that may reduce to a minimum their influence in the life of the child, and assist him to use all his strength in living intelligently toward the ideals of the race. In other words, these rudimentary conditions should cease to be factors in the lives of the race as early as possible.

ADDITIONAL PAPERS SUBMITTED TO THE KINDERGARTEN CONGRESS.

FROEBEL'S EDUCATIONAL PRINCIPLES IN ENGLAND.

BY EMILY A. E. SHIRREFF, PRESIDENT OF THE FROEBEL SOCIETY, LONDON.

I AM asked to give to our American friends some account of the progress of Froebel's educational principles in England. It is not an easy matter, and my answer will be a very imperfect one. One great reason of the difficulty is that much of the work has been desultory, and the knowledge of it confined, therefore, to scattered localities. Had the great hope of the Froebel Society been realized, and had efforts been combined and systematized under one central body, we should not only have made more advance and attained more influence, but the point gained would have been easy to realize and to present. This view, however, was not popular, and only here and there had there been any combination; consequently it is very difficult to learn what is going on and what has really been achieved.

This is the first difficulty. The second is more serious, and would, I fear, be the same in every country, arising, as it does, from the danger of confounding the increase of kindergartens with the spread of Froebelian principles. But to this I must return later.

It may not be uninteresting, before speaking of the present condition of affairs, to cast a glance at the past, at the early beginning and the history of the movement in England, and I cannot do better than to quote a passage from the preface to the interesting translation of Froebel's letters by Madame Michaelis and Mr. Keatley Moore, in which a slight review is given of the period since the first introduction of the system in England in 1854, just fourteen years after Froebel opened his first kindergarten.

"One generation only of Englishmen has passed away since that, and yet in this short time, with all the inertive force of insular and conservative England to strive against, hampered at the same time by a foreign name, foreign interpreters, and by much that was foreign in its actual working detail, the kindergarten has struck deep root in our land, and has already, so to speak, acclimatized itself. Its foreign name has been adopted, and is now reckoned as very good English. Those who remain to us of its foreign interpreters—the ladies to whose enterprising exertions we owe so much—have also become as good Englishwomen as any others. Its foreign details have entirely disappeared, and we have now a vigorous and thoroughly national *English kindergarten*."

To return to the history of this change, we may begin by quoting a few words from Baroness von Mahrenholtz's account of her first visit to England. She came two years after Froebel's death, in 1854. "I found," she says, "the first kindergarten established in Hampstead, and during my stay in London several others were founded. In Manchester and in sundry other towns in England, as also at Dublin, kindergartens existed. During the six months of my sojourn in London, where I gave many lectures on Froebel, proofs of sincere recognition of his merits were not wanting. Already some English writings on the kindergarten had appeared; and also a practical manual or pamphlet, which I published in English in 1855 under the title of 'Infant Gardens,' was quickly taken up." It is interesting, as I have remarked elsewhere, to be reminded that Dickens was one of those who gave an early welcome to the kindergarten among us, and that he wrote several articles upon it in *Household Words*.

Following the very useful chronological abstract given by Madame Michaelis at the end of the book I have just quoted from, we find that Miss Heerwart and Madame de Portugal both came to England in 1861 to conduct different schools at Manchester, whence Miss Heerwart subsequently went to Dublin; that in 1866 Miss Doreck (afterward the first president of the Froebel Society) came to London and founded the admirable kindergarten and school where she remained till her death, a few years later; while Miss Heerwart left Dublin to become principal of the Stockwell Training College.

Again, it is recorded that the Froebel Society was founded in London in 1874; that it held its first examination for kindergarten teachers in 1876, Madame de Portugal having come over from Geneva for the purpose, as

chief examiner; and that in 1877, after the lamented death of Miss Doreck, I had the honor of being elected president of the society, a post I have retained till now.

The Froebel Society was founded for the purpose of making a more systematic endeavor than had yet been tried to spread the knowledge and practice of the master's views and method. A system of lectures, discussions, meetings, publications (including translations), training and registration of teachers, and inspection of kindergartens, was laid down; and had we been able, as we fondly hoped, to draw together the workers in various parts of the country, we should have been in a position to do much and to exercise considerable influence. Fortunately, in one branch, the most important by far, we have won real success; namely, in the examination of teachers, on which depended the right scientific direction of the whole movement. To this the society set itself with patient determination from the first, laying down a curriculum of studies for the training of the young teachers in the theory and practice of Froebel's complete system of education, upholding a high standard of knowledge and efficiency, and giving the public the guarantee of a certificate granted on the award of examiners unconnected, as far as it is possible, with the training of the students. I say "as far as it is possible," because in the special and technical work of the kindergarten it has been sometimes unavoidable to call in the services of the few really versed in these matters, and who are, for the most part, engaged themselves in some training-college work. The certificate thus given has year by year gained repute, till its acceptance by the Education Department, in 1892, gave it public sanction; and this year the candidates for certificates of various degrees number upward of four hundred, having risen from seventy-eight in 1887.

Kindergarten methods were partially introduced into the elementary schools in London some years ago, but not in direct connection with us. Miss Lyschinska, who was the first person employed by the school board to give this instruction, was at the time and long after on our council, but acted independently in this matter.

In answer to inquiries from me, a lady well qualified to give an opinion writes that "progress in kindergarten methods in board schools had been steady during the last few years. The infant schools show more and more the results of a wiser and more efficient kind of teaching. The infant-school mistresses have a greater knowledge of child nature, and are more apt in utilizing the educational advantages of Froebel's system than the mistresses of the higher standards.

"The movement in favor of technical education has awakened in many a sense that it would be as well to prepare the hand and eye in some measure in the infant schools; so there is a tendency for the one movement to meet the other. . . .

"Many inspectors and members of the school board show a growing

desire for more educational methods and wider training of the intelligence, and are prepared to welcome a thorough application of the system. . . .

"The education code of 1892 and 1893 affords strong evidence of an appreciation of Froebel's system, and the new circular lately issued by the department shows that the missionary work of the Froebel Society has made a deep impression."

The circular here referred to is one directing all inspectors to require kindergarten work in the infant schools, thus giving the fullest official recognition of the value of Froebel's method. It may be well to quote some of the forcible expressions in which the grounds of it are laid down.

"Two leading principles should be regarded as a sound basis for the education of early childhood :

"(1) The recognition of the child's spontaneous activity, and the stimulation of this activity in certain well-defined directions by the teachers.

"(2) The harmonious and complete development of the whole of a child's faculties. The teacher should pay especial regard to the love of movement, which can alone secure healthy physical conditions ; to the observant use of the organs of sense, especially those of sight and touch ; and to that eager desire of questioning which intelligent children exhibit. All these should be encouraged under due limitation and should be developed simultaneously, so that each stage of development may be complete in itself.

"It has been strongly urged that sufficient attention has not been paid in the past to these principles ; indeed, it is often found that the kindergarten occupations are treated as mere toys or amusing pastimes because they are attractive for children, and the intellectual character of the 'Gifts of Froebel' is disregarded, whereas the main object of these lessons is to stimulate intelligent individual effort."

This circular, which carries authority throughout the country, will not only produce a large measure of direct good, at this moment especially, when the number of little children in the schools is enormously increased owing to the free admission, but will, we may hope, tend to bring about that unity of action among various bodies of Froebel workers which we, as a private society, failed to obtain.

It had been our great desire to have established a joint examining board, gathered from all the more important centers, but we were disappointed. In this, the work of supreme importance that we felt called upon to undertake, we were again baffled by local dislike to a combined systematic movement. Blind to the effect on the public mind of such harmonious action, provincial associations have preferred to keep their independence. Thus, although we have centers for examination in various parts of the country, it is not as members of one union that the workers in these different localities call in our help. We are, indeed, moving toward the same object, but not hand in hand, which would greatly have increased our prestige and powers for good. One country association only, that of Bedford, has, in the matter of examination, completely joined the Froebel Society of England and Ireland (its full title), and agreed to form a joint board composed of members chosen from the councils of both societies ; and this board has been fortunate enough to secure as chairman Mr. H.

Courthope Bowen, whose valuable contributions to Froebelian literature are as well known in America as among ourselves.

This want of combination makes, as I before remarked, one great difficulty in presenting anything like a satisfactory account of the progress of the Froebel system in England ; and yet we may safely affirm that it has spread widely. We see it in London and the neighborhood, and we know of much work done in Yorkshire, in Manchester, and other parts of the north ; in Cheltenham, under the auspices of the Ladies' College, whose distinguished principal, Miss Beale, is earnest in the cause ; in the high-schools of the Girls' Public Day School Company, twenty-five of which have kindergarten preparatory classes ; and of the many schools set up independently under the same name in different large towns all over the country, several have adopted the same arrangements. In short, the kindergartens, good and bad, are to be numbered by *hundreds*, and even the bad bear at least witness to the growing popularity of this method of dealing with little children.

There is, however, as I said before, a more serious question to answer with regard to the real progress of Froebel education, one which points to the second great difficulty of giving anything like a complete report of the existing condition, and this is, How far does the increase of kindergartens prove the spread of the Froebelian theory of education ? How far is his principle of development of faculty in young children, of the continuity of education upon the same scientific lines, accepted by parents, or even by teachers in advanced schools ? In short, are we aiming only at making childhood happier and more healthily active, or are we really following more and more the teaching of the great master, and consciously striving to train another generation of better citizens, of men and women by whom the value of work shall be less measured in money gain or worldly success—the parents of the future, who shall feel more deeply their fathomless responsibility for the well-being, physical and mental, of the young creatures committed to their care ? This was Froebel's view as he labored for "the education of mankind." He could scarcely find words to express his sense of what we owe to children ; do we then, when we speak of the progress of his views among us, mean that we are more and more sharing in this feeling, with all it implies of new effort and higher aims ? Would that I could answer this question as easily as that which related to the spread of kindergartens ! A lady, whose own admirable work and long dealings among parents and ordinary teachers gives her authority to speak, sends me a discouraging account of her own experience :

"Parents," she says, "as a rule expect a modern kind of education ; but what they expect they cannot define. They see a large number of children happy and good ; they would like their own child to join the group. We take them round in every classroom, and explain some points

in each, and they get a general impression ; but on only the rarest occasion have I ever aroused sufficient interest to get a parent to read any educational work. I keep pamphlets and distribute them, but rarely hear a remark upon them. We get about five hundred visits annually—two hundred from parents, three hundred from strangers ; and of these, three or four people annually will ask for books on educational subjects.

“With regard to definite appreciation of the kindergarten, the occupations appeal to some (*a*) as amusement ; (*b*) as a means of training artistic faculty ; and on the whole this is fairly well appreciated.

“Parents are slowest to observe the value of the whole training as a means for the development of character. If they recognize at all that the kindergarten is a little miniature world, they argue that on the whole they would prefer it without the mixture of good and bad. They see no good in the games or stories, but they see that on the whole the children get on, and so they bring them, and so they leave them.

“The question is still too frequently asked as to the utility of the objects made, not only in the kindergarten, but also all through the transition and manual-training classes. We have still to drive home the lesson that the real product is unseen and in the child ; the article made has been but a means of aiding this unseen development.”

We see from these remarks two facts which exercise a baneful influence—neglect of the study of Froebel by teachers of more advanced schools, so that the combination of the system that aims at developing the whole faculty of the child with that which aims principally at giving knowledge for more or less definite objects—*i.e.*, the right continuity of education—is hindered ; and the neglect of that same study by parents, so that a child passes, so to speak, from one mental climate to another between the kindergarten and home. Parents here really mean *mothers*. Unspeakable good would indeed be done did fathers study education, but there are excuses for them which do not exist for mothers, whose first duty to God and to the nation is the right training of the young creatures given to their care.

In summing up this report, this at least is certain : We have made considerable progress ; we are moving forward ; the means are abundant, both in schools and in teaching powers ; but the interest of the public, so indispensable in every modern undertaking, is lacking, as we may certify by the infallible money test. The position of Froebel as a reformer of education is not completely understood, save by a few, even among the serious educators of the day ; while mothers have not yet realized, as they should, that *here* is their own special guide and friend, the one among the teachers of men who turned from the pedantry of schools and called upon women to help him, and to vindicate their own position as the heaven-appointed educators of the race.

I make no comparison between my own and other countries ; I have no

means of doing so. Whether the same causes operate to hinder Froebel's influence among them I know not. But I dare to trust that England will not, in the end, be found backward in the race; that she will be neither lower in her ideals nor less zealous in pursuing them.

THE KINDERGARTEN IN AUSTRIA.

BY MRS. OTILIA BONDY, OF VIENNA.

OUR kindergarten, like many good and great creations, took root in a simple work of charity, in the old system of day nurseries, the first of which was opened at Vienna, 1830, on the birthday of Emperor Francis I. Two noble-hearted men are to be mentioned as the promoters of this good work—one, an old Catholic priest, Reverend Lindrer; the other, a young man in the prime of his years, one of those philanthropic pupils of Moses Mendelssohn, who knew how to extract the purest gems of philanthropy out of the Mosaic creed—Josef Wertheimer, who, in later years, was knighted by his sovereign, the present emperor. Wertheimer had learned to appreciate the infant schools for the poor two years before, on a tour through Great Britain, where he found three hundred schools established by the Infant Schools Society. It was a strange thing to bring home to his country for a young man of rich means, of high spirits and great personal gifts. When Wertheimer died, an octogenarian, almost his last words were about his creations, the kindergarten and the orphan's asylum.

New ideas used to meet with opposition in all parts of the Old World. This was especially the case in Austria before the vivifying and invigorating movement of 1798. The clergy, the bureaucracy, and the populace itself were against the idea of the day nurseries. Wertheimer would not have succeeded in getting them sanctioned by government if he had not obtained for them the patronage of the Empress Karolina Augusta, the emperor's fourth wife, of whom the monarch used to say that in her he had at length found his life's greatest blessing—a *true wife*. This noble and truly pious lady helped to overcome all difficulties, and in a short time many day nurseries were opened in districts crowded by the poor, where the mothers, as breadwinners, have to be away from home the best part of the day.

All these institutions had no higher aim than the one to keep children from getting into mischief. It was their purpose to *keep—zu bewahren*—as their name *Bewahranstalten* indicated. Their management was intrusted to elderly people, good for nothing else, with no pedagogic experience, with no insight into the wants of developing minds. Girls were taught to knit; boys were left to their own devices as far as the first rule, to keep quiet, permitted it. They were taught some Bible verses. When the

older ones got too unruly, their untaught teachers took to primers and arithmetic and spoiled them for school.

Again it was Josef Wertheimer who came to the rescue. Assisted by his wife, he had found means to build the first *Kinderbewahranstalt*, which was established in its own house and dedicated to the rites of the Froebelian system. The empress undertook the patronage of it, and it was touching to hear her say to the wife of Joseph Wertheimer, a childless wife like herself: "We both, as well as your husband, have the mission to offer to other people's children the devotion which we were deprived of giving to our own ones." This *Bewahranstalt*, which celebrated its fiftieth anniversary this year, where I had my initiation in charity work, was built exactly to its purpose. In the midst of the Leopoldstadt, a densely populated district, it provides a spacious hall, large rooms, a well-kept garden with a vast lawn and shady grounds which are kept open from morning till evening. Two hundred and fifty to three hundred children are here taken in to get a wholesome dinner for a nominal price, and food for the poorest is dispensed.

This *Bewahranstalt* was conducted from the beginning on rational pedagogic notions, but its great importance as the first kindergarten in Austria dates from 1863, when its present principal, Mr. Fisher, and his wife took the management of it. This excellent pedagogue, who has had the distinction to be appointed honorary vice-president of the Educational Congress, was the first to introduce the Froebelian system, and to change it into a real *Volks-kindergarten*—kindergarten for the people. Very soon some private kindergartens were opened in different Austrian towns, but all of them were sadly in want of assistance. We had the garden, but we had no gardeners except the few principals, most of them only book taught.

To better this state of things, Wertheimer, after having celebrated the twenty-fifth anniversary of his foundation, went to Gotha to study the seminary and training-school under August Koehler. Before the end of 1868 he and the ladies' committee in charge had the satisfaction of opening the first seminary for kindergartners in Austria, with eight pupils, under the management of Mr. Fisher and his wife. Up to this date nearly seven hundred kindergartners and trainers have graduated from there, and have helped to propagate the system over the whole Austrian realm. The course of instruction is of one year's duration, and the applicants must be at least sixteen years old. I am happy to say that the standard for their graduation is a sufficiently high one, and that the ethical side of their vocation is duly impressed on them.

A most important era for the kindergarten was in 1872, under the minister for public instruction, Stremayer, when a statute was elaborated by a committee of school authorities which regulated the management of kindergartens, *Bewahranstalten*, and seminaries for kindergartners under

the law, and which elevated the above-mentioned seminary to the rank of a state institution, and now its certificates have the value of public documents.

In 1875 a second seminary was opened at Vienna, and five years later government itself annexed like institutions to the seminaries for female teachers. I am sorry to say that neither public opinion nor the good will of our teachers kept pace with this satisfactory acknowledgment of the Froebelian system. Parents in better situated homes did not take kindly to an institution which they judged at best to be superfluous. Teachers at first thought it a hindrance to future serious work; they were of the opinion that the habit of symbolizing gave too large a scope to childish imagination, that it was apt to make the little ones fanciful and dreamy. They would have it that being led from one occupation, from one play to another, took all self-reliance out of them, and that they had great trouble to accustom them to serious schoolwork. These prejudices are disappearing, as happily most prejudices do in the course of time. Not the least merit in dissipating them belongs to the "Association for Kindergartens"—*Verein für Kindergärten in Oesterreich*—on the first board of which I had the honor to be the only lay woman, a link between kindergartners and mothers. I am very proud of having accomplished this mission. On this committee we had some teachers from public schools. They had occasion to study the system, to know its value better, and to promote a truer understanding between their colleagues and the kindergartners. This association, founded in 1879, undertook as its highest aim to prove that kindergarten teaching is an advantage to future teaching. It sent out a list of questions to the heads of the primary schools, asking what percentage of pupils who had had this kindergarten teaching gave better and what gave less satisfaction to their teachers? This inquiry is not yet closed. The association would open *Volks-kindergartens*, but their means are not sufficient. Its work till now is more an ethical than a practical one; it gives a nucleus to the kindergartners by meetings, readings; by the publication of its organ, the *Journal für Kindergartens*, a most valuable source of information for kindergartners out of reach of direct communication with their colleagues.

In 1879 there were one hundred and fifty-six kindergartens at work in Austria. The next year was of importance not only as to statistics, but for the dignity of the idea as a means of guarding the German element from being overrun in mixed districts, as we have so many in Bohemia and in other provinces of our polyglot empire. The *Deutscher Schulverein* was founded by a circle of German patriots. This noble institution endowed Austria not only with a great many German schools, but also with between fifty and sixty kindergartens. As far as I could procure the statistics, there are now between five hundred and six hundred kindergartens in Austria. They owe their subsistence to government, in case

of being attached to training-schools at the seminaries; or to the municipalities in manufacturing towns, where the free kindergarten is a great necessity. Some mill owners founded kindergartens for the children of their hands. Many are kept by women clubs. There are also a few private kindergartens for well-to-do people.

If I am permitted to say a word about the working of the system with us, I must say that one meets with the same difference of opinion about it as I believe that you find here. Kindergartners of the old school, orthodox Froebelians, use the gifts of the master as he intended them, or, better to say, as they grew out of his loving heart. In playing, they allow the little folk to symbolize without giving them utensils and implements. Younger kindergartners try to amplify the building-stones till they degenerate into ordinary toys; they invent all sort of materials which at least are superfluous. I must say that I found the same difference of managing here, too. Pricking is tabooed with us, as with you, as hurting the eyesight. Round games are performed in a more elaborate style here than with us. The reason of it may be that in Austria children are leaving the kindergarten at the age of six, when they are due in elementary schools. You have them a year longer, so you can do more with them.

In one class at St. Louis I was greatly impressed by the lesson on objects, given on flowers. If ever I met with the most perfect interpretation of Froebel's grand purpose, to educate children as in a garden of God's creation, it was there under the vivifying influence of a highly gifted lady. Many samples of her work, and of that of other trainers, were kindly given me. When I shall have the privilege of exhibiting these at a meeting of the Kindergarten Association at Vienna, as I intend to do, I shall gratefully remember the many proofs of the solidarity between the friends of childhood which facilitated my way in your grand country. I shall tell my compatriots of the wonderful work you are doing here, as I promised to do before leaving Vienna. I have no doubt that I shall better succeed in these explanations where I shall not contend with so many difficulties of diction in expressing my thoughts and feelings as I have here. May I hope for your indulgence to a stranger, whose only hold on your patience is the solidarity of purposes and of good wishes for the children in any part of the world?

THE REAL NATURE OF EDUCATION.

BY HERMANN POESCHE, EDUCATIONAL INSPECTOR OF THE ORPHAN
ADMINISTRATION IN BERLIN.

THE ancient German school and system of teaching made no provision for children under school age. In the school itself the learning of words by heart and familiarity with more or less abstract ideas and a mechanical

faculty were fostered. Traditional science was imparted to the children and demanded back from them, just as linen stuff is mechanically put into a chest of drawers and taken out when needed. The ancient school was a mere word school—a one-sided institution for teaching and learning.

In the course of this abstract and mechanical teaching no ideas were imparted, only dead representations. The powers of the children were not freely *developed*, but *enveloped* and maimed. Continual stuffing made the children lazy and apathetic; the mere repetition and passive learning killed the inclination to self-activity, to self-finding, and self-inquiring. From school the children gained little or nothing for life, or they were not able to apply the acquired knowledge in the practical life.

Then came Henry Pestalozzi and his intuitive instruction. With infinite love and enthusiasm he cared for the children before school age. He wrote books for educating mothers; he created in his mother-books the ideal of an educating mother, "Gertrude." He gave a new foundation to the abstract system of word teaching in school. Instead of the dead word instruction of the ancient school, he offered, by means of his intuitive instruction, intellectual alacrity, self-activity, inventive power, the *real labor of the mind*. Educators, in their enthusiasm for this new method, sought to make all things intuitive to the exterior or interior senses, and saw in the intuitive principles the true reform of all school-work. At the present time we see in intuition only a momentum—an important one, to be sure, but only a momentum—of school.

The great pupil of Pestalozzi, Frederick Froebel, it is true, followed with fine sensibilities and great industry in the pathway of his teacher; but, with a deeper mind, he was able to create, on a new psychological basis, a higher and nobler edifice. Among his leading principles are the following:

(1) Froebel desires for human education and instruction a *developing method*; that is, a progressive method, which is closely related to the physiological and psychological laws of the development of human nature: "education according to nature's laws."

(2) He wants an *educational culture of men*; that is, a system which above all else takes hold of the will of the child. He rejects the one-sided scientific man, and the one-sided teaching and learning school. He will educate acting men, able to apply knowledge in acts and life.

(3) He wants *education of (the whole) man*; that means that which takes hold equally on the three fundamental characteristics of man's nature: thinking, feeling, and willing, with the means offered by art, science, and the practical technical life.

(4) He wants, as an end of human education, a *life harmonious on all sides with God, men, and nature*. In other words, he combines the essential of the existing institutions of education: the *religious* element of the public school; the *realistic* (mathematics, natural sciences, etc.) of the

real-gymnasia; and the *humanistic* (languages, history) of the gymnasia. He wants "living union with God, man, and nature"; that means not only that which consists in knowledge and the mastery of words, but in which, also, the sensible and active man is involved.

Froebel wanted first, as mentioned above, the culture of men in all directions accord to nature's laws, with reference to nature, man, and God, as well as in respect to the three fundamental attributes of human nature, acting, thinking, and feeling. As a psychological basis he placed acting first. The child is to him first an acting and creating being, not first a learning and knowing being. Knowledge, perception, must, so to speak, grow out of action. He repeats this principle over and over again, always in new terms. We will here quote the most important of these expressions:

"The education worthy of man, following the demands of nature, must place him early in such relations and actions that he, by creating and acting, may represent his own nature outwardly, and thus fully reveal himself."

"The time of daily work and exercises of teachers and pupils must be divided with the time for labor—that is, working and acting—learning and instruction must alternate with labor."

"This instruction—that is, learning and teaching of pupils and teachers—must proceed from their own acting and working; doctrines must be applied in life."

"In public education acting must be supreme; that is to say, teaching and learning should proceed by and through things, through acting and through life. Thus the intelligence, reaching higher and higher, to the particular as well as to the general, and its creative power, working according to the faculties, the talents, and the inclinations of the pupils, are developed."

According to this the representations—*i.e.*, thoughts and ideas within the mind of the child—must not remain dormant, but they must come into life by the hand, by means of action and by creating. On the other side, the external works of art and nature must not remain external to the child, but they must be made internal, being brought into the mind.

Froebel thus combines the two psychological contrasts of acting and thinking, art and science. This he expressed in a short formula, which runs thus: "The external must be made internal to the child, and the internal must be made external."

The acting of the little child is represented by play. "With the play of the child," as Froebel says—"with the play, as with the child's innermost nature," he connected the first education in family and kindergarten, and for the playing activity he sought and found "a whole in itself of play and occupations." To sketch this in its separate parts may be superfluous, as it is represented in many American books, generally with good illustrations.

Only this I will say, at last : As nature gives the young duck the element of water for swimming, so Froebel in his kindergarten provides the child with suitable material, so that he is enabled to give his ideas an external form, a body by the work of his hand. Thus his mind is strengthened through perception by the senses, through intuition and observation of good, beautiful, and true things. Froebel's kindergarten method consists in this, that the child, by means of forming and shaping in free self-activity, learns to seek, find, and invent, and is enabled to elaborate through this activity, which corresponds to his nature, his individuality, and his peculiar character.

Thus Froebel has become, through the representative idea, the true artist among pedagogues. The "A B C of activity," which Pestalozzi looked for but did not find, Froebel has added to the ancient German and to Pestalozzi's representative school. Thus for all the time in which children shall be educated, as long as learning and teaching survive, the intuitive learning and teaching will be maintained. Froebel's system of representation as a necessary completion makes possible an all-sided, harmonious, developing, educating human culture, and this will be in the future time the true aim of teachers and educators.

PREVENTION OF CRIMINAL IDLENESS.

BY MISS EMMA MARWEDEL.*

It seems almost unnecessary to urge the educational value of labor before a body which has considered this problem for years.

Philosophy, science, and experience force the educators of the nineteenth century to recognize the reciprocal relation existing between mental and bodily activity, a fact which brings bodily activity at once into the curriculum of the school, especially in a government by the people, for the people, which must rise or fall according to the mental and bodily condition of the people.

The work accomplished by the American nation shows gigantic concentration of cosmopolitan energies. What wonder that the children are born with the highest degree of bodily activity? Yet, strange to say, in spite of this inborn activity, the American baby is very quiet. The reason for this seems to be that the first settlers having very little time to spare, the American baby was consequently more left without toys, and is

* Miss Emma Marwedel established an industrial art school for women at Hamburg, Germany, in 1867. She came to this country in 1872, and opened the first kindergarten in Washington, D. C. In 1876 she founded the first kindergarten normal school at Los Angeles, Cal. For several years past she had been engaged in kindergarten work in San Francisco, Cal., where she died November 17, 1893. Although nearly seventy-five years old, she continued her active labors almost to the time of her death.

still to-day less amused and less talked to than the European child in the cradle, and this affects its habits in its seemingly passive condition.

But observing the large, wondering eyes of our children, comparing, seemingly, one object with another, though resting for hours in a peaceful and undisturbed condition, proves them quite active in thinking; and while their plastic features indicate restful, harmonious bodily development, their gain of knowledge by means of silent observation and evident self-activity is surprising.

But with the power to walk and speak its condition is suddenly changed, and the combined forces of its mental and physical activities break forth without limit. The child wants to know and to do everything at once. His faithful teacher's experimental activity and repetition of comparison and observation seem too slow now, and it is to the adult that he clings in his demands and expectations. What provision is in use to direct and satisfy these childish demands?

Our houses are not built with nurseries fitted to hold experimental toys; as, for example, a rocking-horse, a nursery-swing, nursery gymnastic tools, Australian jumping-chairs, colored ellipsoids to sort and string, and, highly important, a sand-table. Neither, in most cases, are nurses often, and sometimes not even mothers, capable of answering the questions of the child. Our tenement-houses, our hotels, and our own single rooms preclude the child from running and jumping. There are very few clean, healthy, and attractive yards; no near-by parks where a mother may sit to sew while the children play around her knees, as seen in Europe; no private parks open to them; no school-gardens; no teachers engaged to take the truants, as in London, to the gymnastic apparatus found in the parks; and to the museum or other places of learning and interest. There are only rare possibilities of excursions in field and forest, where teachers can make selections.

What is the fate of these prevented activities? The children are perverted; they are driven into those highways of juvenile crime, our streets and by-ways, where by eager, idle, practical observation, with a dime novel in each hand and a dime novel in each pocket, their wonderful gifts and activities are inch by inch turned into destructive activities, and gradually a contempt for labor grows into distorted views and vicious habits of life.

How to regulate these inborn gifts, how to direct the efforts of the republic which is responsible for the prevention of crime as well as the cure of it, is the question that confronts us wherever we meet these unfortunate victims of indifference and neglect. Are there no helping hands for them? Such hands have partly been found in our free kindergarten, and whoever doubts the educational value of labor should enter the embryo workshop in a well-regulated kindergarten. There is joy, no burden, as Professor Hall fears, in every movement of the muscles; joy, and gradual success, and final mastery, and helpfulness and self-reliance, in control of

will and in patience ; joy in seeking, finding, and proving truth, in reason and judgment ; joy in knowing by doing for and with each other ; in seeing and touching ; in ethics and æsthetics ; joy in health and strength ; and joy—threefold joy—in the harmoniously rounded physical, mental, moral, and religious development of the child. This picture is not overdrawn, and the question arises, Why do we not continue this education through labor ?

Educational development by systematized labor is not new. The Economical Society in Sweden has existed since 1813, and has reached fame and influence, especially since the so-called *Slojd* system lent its assistance. In France both compulsory education and the introduction of manual labor were established by law in May, 1882. The so-called *Ecoles maternelles* date from 1881. They began with some kindergarten workshops in two classes for children from two to five years, and from five to seven years. The higher elementary classes, devoting from two to three hours weekly to manual labor, result in the acquisition of skill, strength of body, integrity of character, and quickness of action, together with excellence in workmanship as the real aim, while the labor itself is treated partly as relaxation. Girls receive a theoretical and practical preparation for house-keeping, cutting and fitting of garments, and needlework.

There is a regular manual training of four years' duration for the boys. This gives theoretical and practical instruction in a chosen trade, including drawing, art culture, singing, foreign languages, and gymnastics, demanding four hours a week, though the last year may require the whole time except ten hours weekly. Each school must furnish as many rooms for workshops as there are classes. Wherever manual-labor training has been connected with public schools, those teachers already familiar with the child, and able to instruct in one or two branches of manual labor, have had the greatest success. On this basis, and to save expense, France provides a very extensive work programme, including agriculture, horticulture, and art culture, for the seminaries of preceptors, and they serve partially as models in Europe.

The head of the Paris training-school is M. G. Salisis, whose name became known in 1872 by his connecting the first manual-labor class with a public school in Rue Turenne, Paris. Germany dates its first educational labor movement as far back as 1663, when A. H. Franke connected it with his famous orphan-house at Halle. Basedow followed him with his celebrated Philanthropium, which, though making a great impression on some eminent educators, did not produce a lasting reform ; and it was not until 1829 that the kindergarten and a branch institute at Helba, Switzerland, matured this idea, culminating in the present manual-labor schools, although labor has been constantly used as a means of development in Froebel's institutes.

The wide-spread, powerful, and yet individually kept organization of

manual dexterity brings us back to the consideration of our own condition in this respect. The school shops were discussed by the American Social Science Association as far back as 1877, in Boston, by a committee consisting of Wendell Phillips, S. P. Ruggles, Elizur Wright, Edward Everett Hale, and John Newell. In this discussion they say: "How shall we train for the wide field of responsibility that lies before them, the children and youth who are to succeed us in this world, so changed by science and inventions?"

Says Wendell Phillips:

"Now idleness is one of the first temptations to vice. Children should be taught how to work, and, if possible, trained to love work. Seven out of ten who come out of our public schools would prefer a trade by which to make a living by the work of their hands, but hundreds leave school at fifteen years of age wholly unable to do anything for which any man would give them a dollar. And further, in my judgment, *we have no right to take a man's child from him and keep him until he is fifteen, or to induce a man to trust his child with us, and then hand him back unable and unfit to earn his bread. We have done the boy and the city a harm rather than good. Education means FITTING man for his life; we have rather UNFITTED than FITTED such a boy for the life of labor which is to be his destiny. Our system helps the literary class to an unfair extent when compared with what it offers to those who choose some mechanical pursuit. Our system stops too short; and as a justice to boys and girls, as well as to society, we should see to it. Its main features must be added to our public school system, which daily becomes more unequal to the task it assumes.*"

Edward Everett Hale says:

"*The great duty of the state is to make the most of every child born in the state. We BEGIN bravely on the broad system of public schools, but it must be remembered that the average Boston boy leaves school forever before he is twelve years old.*"

We wish the state to add school shops to its system, because the state can do it better than any private corporation. And if a child should enter a kindergarten at the age of three years, and remain in a connected manual-labor school, he would have at least a *nine years' training for work.*

But Mr. Hale continues:

"The state has determined *wisely* that all large towns shall have LATIN and GREEK taught in the public schools, and shall prepare *boys* for college. It has determined *wisely* that they shall teach drawing in these schools, resolving to develop the hardly budding genius of art in our manufactures. Let it determine with the same wisdom *not to be dependent on the workshops of other lands for the skilled workmen whom it must have if its great enterprises are to prosper.*"

I cannot but believe that so soon as the state throws the prestige of the public school system around its schools of industry, and opens them as *freely as it opens its schools of Latin and Greek and the higher mathematics*, we shall see boys of enterprise and ingenuity and quickness of

eye repair to them with as much eagerness as boys now repair to West Point and other places. The state must meet the wants and aspirations, as it trains the inborn faculties of every child born into its arms.

The *Boston Post* says :

"The opinion of Hon. Elizur Wright, that our common school system is set up wrong end foremost, because children should be taught the use of tools before they learn to read, write, and spell, deserves consideration as coming from a man who knows experimentally whereof he chooses to affirm, and feels a deep personal interest in the right advance of popular education. The kindergarten idea is not so very far away from his as to be denied relationship, and may in time operate to bring his into universal recognition."

The *Boston Saturday Evening Express* says :

"We have now in our State (Massachusetts) about three hundred thousand persons who have no practical knowledge in any trade, art, calling, or profession by which to obtain a living, these being useful only as a reserve from which a draft can be made for tramps, political bummers, thieves, jail-birds, candidates for all our penal institutions. Nine-tenths of all the criminals arraigned and corrected are persons who have no technical education."

I return now to the natural workshops—the kindergartens. And we ask, Shall we, by failing to form and control the child's life habits through skilled labor, deliberately pervert and destroy all that has been accomplished by the kindergarten? Speaking of the well-calculated organization of the manual-labor movement, or the education through work to work, I wish to apply this calculated adaptation also to the kinds of work to be performed. Though fully inculcating Froebel's principles, still the objects of the child's occupation, or at least the means of illustrating these principles, are changed, and refer rather from the start to objects for which the child finds use, and which are also serviceable as toys, an idea that meets my approval. This selection and combination of the work comes from pedagogues who are students and admirers of Frederick Froebel, and are strongly individualized in material and objects. I mention in this connection the pioneer worker, Clausen von Kaas, teacher at Dresden; Franz Hertel, teacher at Zwickau; and Gustav Ummer, teacher at the seventh *Burgerschule* at Dresden.

During my visit in Germany I failed in my efforts to get a series of examples of such work, which I hope is on exhibition in Chicago. My connecting link contains some parts of Mr. Hertel's work, and refers to Miss Eva Rodhe's wood-cutting, of which I have the models that were made at the kindergarten of Frau Henriette Schrader (niece of Froebel), at Berlin. Meanwhile, although in Europe some men with a mother's heart are thus inspired to do justice to early childhood, here in America we must rely on our enthusiastic and efficient kindergartens. Some of them are perfectly fitted to carry kindergarten work into our

public schools. Mrs. Ellen Gibbs, principal of the Garfield Grammar School, in Oakland, California, undertook the teaching of her boys in the wood-work I brought from Miss Rodhe. She said that she had to chase the boys off at five o'clock. They regarded the workshop, as they should, as a playroom. It is the natural instinct of the child to be active, to work; and *state* and *society* are equally responsible for our increasing number of idle children.

Having told some boys of from twelve to fourteen years of age, to whom I had given kindergarten occupations at Dr. McDonald's Band of Hope, in San Francisco, that my normal students and I would open separate classes for them, I had to call on a policeman to open the door from the inside, as the children filled the whole street so that we could not get in; and the same happened at Los Angeles, where fourteen volunteer teachers and seventy-five children responded to the call for a free evening industrial school. "Yet," said an earnest, devoted founder of a labor evening school, "we cannot keep boys in our labor schools."

But let Johnnie, eight years old, be asked if he will not make something for his mother to use in her kitchen, and his face will radiate with light. He accomplishes the work, in hope that the next piece of work for his beloved mother will be still better. He carries his important piece home, and the mother is surprised and delighted. She never dreamed that Johnnie could do such beautiful wood-work, and "What will father say, Johnnie?" she asks him. And Johnnie can hardly wait until six o'clock brings his father home. The father also feels great admiration for the oldest in the family, and remarks, "If I could only make something of the kind myself!" With his jack-knife in hand and his boy on his lap, the father becomes the pupil of his delighted child, and stays at home with a new interest, proving the revolution which schoolwork may effect in the morals of the home. But our story (true from life) is not ended. Johnnie's mother is so proud that she calls in her two neighbors, pointing to Johnnie's exceptional talent. These, not denying Johnnie's merit, will never consent to believe that their sons cannot do just as well. "Henry and Will must go to the same evening school," they say; "it must be a good place." "Yes," says Johnnie, "they make their own toys, and I will make some for Artie, and father can make them, too."

This story presents true kindergarten spirit. Let every public school set aside for the present at least one room to give instruction in different kinds of work. Engage one enthusiastic and capable kindergartner, and leave it to her to find assistants. I am sure the board would have no further trouble. She would attend to her classes, and, assisted by other volunteer kindergartners, she would thus give them opportunity to be trained for the work. After school, the room may be occupied by another volunteer set of young ladies and gentlemen to assist young boys in their schoolwork. They may take a walk, read an attractive book, or play on

the piano. Dr. Stanton Coit, now in London, told the writer that he had dancing parties, in which he showed young men how to dance properly and how to escort their young lady friends like gentlemen. If we want to keep our children out of the street, new and attractive avenues must be opened to them. The same room may be used for another class of children, having the work-tables hinged upon the walls. Success or non-success depends on making the hours of work attractive. No doubt the State normal schools will train their teachers in this twofold capacity. As regards method, the material to be chosen, the workmanship desired, and the curriculum of art culture, America will judge for herself. Professor Hirschfelder, of the University of Leipzig, said :

“Instruction in manual dexterity is a very praiseworthy means of cultivation of the senses as the tools of the mind. It completes that part of instruction by which the development of those parts of the brain which serve for the higher mental faculties are excited, while, by methodical exercise in the elaboration of the impressions of the senses, it reacts in favor of a harmonious cultivation of the mind.

“Instruction in manual dexterity promotes sound bodily development when a suitable choice of work is made. It serves as a counterpoise to the influence of study-work, which is connected with mental strain and continuous sitting, while by the activity of the senses and nerves it has a diverting and unburdening effect; and, at the same time, excites the activity of the muscles as a lighter form of gymnastics, which certainly does not make athletics superfluous, but supplements them in a desirable way.”

Not less vital changes should meet our present teaching of natural history, of object lessons, and horticulture. Based on the child's known experimental activities, the material used and handled by it should serve the teacher to guide the child to the desired information, partly given by his class instruction, but mostly gained by the child's own investigation and comparison of the products of nature,—their uses, how manufactured, and their final sale and consumption. The whole knowledge gained should be brought forth in individual discussion, well spoken, criticised, and in writing. Hence, to accomplish this, a corresponding building must be erected, of which I presented a well-received plan to President Garfield, when trusting his three children to the effect of the New Education at Washington, D. C., 1872.

The building and annex to our State normal schools, or university, should be of a round structure, sixty feet in diameter, divided through the center into four parts; two quarters of this division, on the sunny side, should serve for the school garden in practical and theoretical instruction, also in botany, analysis of soil, grafting, destruction of insects, etc.; one quarter being used for gymnastic exercises and games, thus enabling teachers, as in the German *Handfertigkeitsverein*, to play out-door games and the graceful Greek ball games with the children; while the last fourth

is assigned to school baths, masonry, and iron work. Stairs lead from the center of the front of the first floor to the second one. The light coming from the skylight, the second floor is divided into eight sections, radiating from the center, where space is left for a large round table, to be opened like the counters in stores, the center of the table to be covered by a desk for lectures and instruction, the table affording the necessary space for drawing, studying, and writing. The triangular sections form each a separate workroom, the light falling from above. The walls of the different partitions are filled with a collection of tools, with a special technical library and a special cabinet, to serve the practical and theoretical instruction of what is taught in that section, as, for instance, paste-board making, metal work, or wood-carving.

My final suggestion refers to the necessary instruments for physical experiments, practiced by Alois Bruhn, director at the Buergerschule, in Vienna, who says that a boy of nine or ten years of age should possess a certain degree of manual skill in order to be able to fashion the materials with which to experiment. He further says: "Normally endowed children try to busy themselves as much as possible, physically, to give reality to their thoughts." What else is the play of children than the endeavor to give practical expression to their world of thought? When the child comes afterward into the public school, and the instruction there progresses suitably and successfully, this endeavor continues, although usually to a more limited degree, according as the opportunities of instruction permit. The child tries to draw, calculates and measures all possible objects, and even tries to represent, with the help of its comrades, the stories which it has heard. How often one child asks another, for instance, to play Little Red Riding-hood, saying: "You be the wolf, and I'll be the Little Red Riding-hood."

When the child gets into the higher classes, where he studies the exact sciences, he tries to reproduce at home what he has seen at school; he experiments. If a boy does not do this, it is either because of a diseased development of the body, or because the instruction has given him no clear ideas, so that he becomes discouraged with his first attempts and loses the desire of putting his thoughts into practice. It is only success and the attainment of results that give encouragement which finally develops energy.

What has been said, being admitted, we may assert that, if instruction is to become more educational, if it is to wake up and develop all the slumbering powers in the child, it must include physical work within its scope.

This course indicates the limits within which physical work should be pursued by whatever pedagogy has recognized as the essential and correct thing for the several stages of instruction and education—that is, it has to adjust itself to the real and proper world in which the child lives,

and to give practical shape to its thoughts. Instruction in manual dexterity should, therefore, as far as it falls within the time in which the child is undergoing school instruction, be strictly confined to these limits. Bringing in foreign objects, which are not connected with the work, takes the child out of its own world, withdraws it from its unitary development, and overburdens it with double mental work, even if the instruction in manual dexterity does not become a mere mechanical drill.

The question might be asked here, whether our theoretical instruction has any need of being supplemented by physical work? It would carry us too far to answer this question for every stage, so we have given in the following only a rapid review of the requirements of instruction in the upper grade of public schools at Vienna, for industrial purposes, leaving out the subjects which contribute only to culture, such as writing, singing, and athletics:

NATURAL SCIENCES.

Object: Knowledge of the most important physical and chemical phenomena, based principally upon experiment, with continual regard to the requirements of town life: knowledge of the fabrication of the most important products of industry, with especial regard to those which are of the most importance locally.

FIRST CLASS—TWO HOURS A WEEK.

Form of connection of bodies, cohesion; kinds of solid bodies, adhesion and capillary phenomena, impenetrability, divisibility, porosity, weight, comprehension of absolute and specific weight, density.

Expansion of bodies by heat, thermometer; expansion of water, expansion of air, draughts of air, wind.

Magnetic attraction, natural and artificial magnets, polarity; construction of artificial magnets by stroking, distribution of magnetism.

Fundamental phenomena of electricity, electroscope; good and bad conductors of electricity, electrization by communication and distribution, electrizing machines, Leyden jars, galvanism, voltaic battery, electric current.

Bottom pressure and side pressure, vessels of communication.

Air pressure, barometer; siphon.

Production and propagation of sound; kinds of sound.

Luminous and non-luminous, transparent and opaque bodies; rectilinear propagation and rapidity of light, shadows, strength of illumination (depending upon the angle of incidence), reflection of light, the plane mirror.

Water, decomposition of water by the electrical current; hydrogen, oxygen, chemical decomposition, oxyhydrogen gas, mixture, chemical combination, atmospheric air, essential constituents of air, nitrogen, carbon, sulphur; phosphorus matches; chlorine, disinfection; iodine, bromine, elements, analysis.

SECOND CLASS—TWO HOURS A WEEK.

The subjects of instruction of the first class are reviewed with the several chapters, and are carried farther:

Conduction of heat, good and bad conductors of heat, change of forms of aggregation of bodies by heat, melting, congealing, crystallization, evaporation, vaporization, distillation, sublimation.

Magnetic needle, declination, compass, inclination (dip), terrestrial magnetism.

Electrophone, atmospheric electricity; ozone, thunder-storms, lightning-rods; the most frequently applied galvanic batteries—physiological, thermal, illuminant, and chemical actions of the galvanic current, galvanoplastics.

Center of gravity, kinds of equilibrium, stability, lever scales; roller, pulley; arbor, wheel.

Equilibrium and motion, inertia, uniform motion; comprehension of mechanical work, measurement of mechanical work, pendulum, clocks, oppositions of motion.

Propagation of water pressure, hydraulic press; loss of weight in water, swimming, determination of specific gravity, hydrostatic balance, aerometer.

Air pumps, loss of weight in air; air balloons, bellows, suction and force pumps, Heron's German ball, fire-engine.

The most important sonorous bodies, rapidity and strength of sound; reflection of sound, echo, reverberation, harmonies.

Curved mirror, refraction of light; optical lenses, dispersion of colors, spectrum.

Lime burning, caustic lime; carbonic acid, carbonic oxide, saltpetre, nitric acid; acids, bases, salts (in the chemical sense), sulphurous acid, sulphuric acid, phosphoric acid, muriatic acid, fluoric acid; etching of glass, ammonia, sulphuretted hydrogen; dry distillation, heavier and lighter carburetted hydrogen gas, fire damp, safety lamps, coal, illuminating gas, combustion, potash; soda, lye, borax; silicic acid, glass, metals, magnesium, aluminium, clay, porcelain, iron, lead, tin, zinc, copper, mercury, and silver, alloys.

THIRD CLASS—THREE HOURS A WEEK.

The subjects of instruction of the first and second classes are reviewed and carried farther:

Radiation of heat, sources of heat; heating value of combustible materials.

Laws of vaporization, humidity of the air; fog, clouds, rain, snow, hail, dew, hoar-frost; elasticity of water-vapor, steam-engines.

Magnetic effects of the galvanic current; telegraph, induction of electrical currents, telephone.

Inclined planes, wedge, screw; free fall, projectile motion, central motion, centrifugal force, water-wheels, grist-mills (water-mills and wind-mills).

Vocal and auditory organs of man, hearing.

Strength of light, illuminating value of illuminating materials; the human eye, sight, spectacles, microscope, telescope, photography.

Getting iron out of the ores, blast furnaces.

Carbohydrates, spirituous fermentation; spirits of wine, spirituous beverages, acid fermentation, acetic acid, vinegar making; verdigris, detection of verdigris in foods; putrefaction and decay; carbonization of fats, glycerine, fatty acids, and other important organic acids, stearine candles, soap, some resins, and ethereal oils.

Tanning, coloring material, and some of the most important colored goods, dyeing, calico printing, bleaching, albumens, glues, foods, preservation and falsification of foods.

(This curriculum embraces the age of ten to fourteen years.)

Teachers trained at such schools would carry Froebel's principles into a true relation with living and being. They would, in true copartnership with the child, tell him what he is best fitted for, and thus bring the teacher into that paternal relationship to the pupil in which he would gradually become, and remain, an adviser for life, instead of the casual instructor which our one-sided system forces him to be.

And the child? With no strength from within, no support from without, no self-knowledge, no self-reliance, the child, unguided and unprotected, glides downward inch by inch, a victim of prejudice and error, on the slippery road of "Criminal Idleness."

DEPARTMENT CONGRESS OF PROFESSIONAL TRAINING OF TEACHERS.

SECRETARY'S REPORT.

FIRST SESSION—WEDNESDAY, JULY 26, 1893.

THE Congress of Professional Training of Teachers met in the Memorial Art Palace, Wednesday, July 26, 1893, at 9.30 A.M. Dr. E. A. Sheldon, Principal of the State Normal and Training School, Oswego, N. Y., was the President of this department. The opening address was delivered by Dr. Sheldon. "The Value of Practice Work in Model and Training Schools," was the subject of a paper by Miss Fanny S. Guptill, of Minneapolis, Minn.

Dr. J. W. Cook, Principal of the Illinois State Normal School, spoke of the difficulties in securing uniformity because of the varying conditions. He contrasted the work of Miss Guptill with that in the normal school under his charge. He urged that a year be spent in professional training before the students begin practice in the model school.

"How should Normal School Pupils acquire Methods of Teaching?" was the subject of a paper by Signor Giacomo Oddo Bomapède, director of a normal school in Alvellino, Italy. The paper was read by Mrs. C. L. Place, of St. Paul, Minn.

"Methods of Training Teachers at the Westminster Training College, England," was the subject of a paper by Joseph H. Cowhan, Head Master of Methods in the Westminster Wesleyan Training College.

A discussion followed the preceding papers, in which the following persons took part: Mr. John Millar, Deputy Minister of Education for Ontario, Canada; Mr. Henry A. Wise, Superintendent of Schools, Baltimore, Md.; Dr. J. M. Harper, Inspector of Superior Schools, Province of Quebec, Canada; Miss E. P. Hughes, Principal of the Training College for Teachers, Cambridge, England; John Hull, President of the State Normal School, River Falls, Wis.; Superintendent Francis Cogswell, Cambridge, Mass.; and Col. F. W. Parker, Cook County Normal School, Ill.

"Important Necessities in Present Normal Schools," by George W. Walton, State Agent of the Board of Education of Massachusetts, was the theme of the next paper read.

SECOND SESSION—THURSDAY, JULY 27, 1893.

Dr. E. A. Sheldon occupied the chair, Thursday, 9.30 A.M.

"Gradation of Normal and Training Schools," was the subject of a paper by Thomas Kirkland, Principal of the Normal School, Toronto, Canada.

"Historical Development of Normal and Training Schools in France"—a paper by Eugene Martin, director of a normal school in Paris—gave a history of normal schools in France.

"Normal Schools in the State of New York," was the subject of a paper by Francis J. Cheney, Principal of the State Normal School, Cortland, N. Y.

"A Sociological, Ideal View of Normal Schools," was presented in a paper by Daniel Fulcomer, President of the Michigan College, Grand Rapids, Mich.

"Should the Course of Study in Normal Schools be wholly Professional?" was considered by Francis B. Palmer, Principal of the State Normal School, Fredonia, N. Y.

"How Normal School Work differs from the Work in Secondary and in Higher Education," was the subject of a paper by Dr. Malcom MacVicar, Superintendent of Freedman's School of the Baptists' Home Missionary Society, Brooklyn, N. Y.

A discussion of the academic and professional character of normal schools was participated in by Dr. J. M. Harper, Inspector of Schools of Province of Quebec; J. M. Greene, Principal of the State Normal School at Trenton, N. J.; Edward T. Pierce, Principal of the State Normal School at Los Angeles, Cal.; President John Hull, of River Falls, Wis.; and Dr. G. Stanley Hall, President of Clark University, Worcester, Mass.

THIRD SESSION—FRIDAY, JULY 28, 1893.

"What should be required of and upon whom is to be conferred the Degree of Doctor of Pedagogy?" This was the subject of a paper by Jerome Allen, Ph.D., Professor of Pedagogy, University of the City of New York.

"What should be required of a Candidate for the Degree of Doctor of Pedagogy?" was the subject of a paper read by Dr. Edward R. Shaw, of the School of Pedagogy, University of the City of New York.

"Requirements for the Degree of Doctor of Pedagogy," was the theme of a paper by Dr. Charles A. McMurtry, of the Illinois State Normal University.

"Higher Academic Degrees in Pedagogy"—in a paper by Professor S. G. Williams, of Cornell University, Ithaca, N. Y.—was a further consideration of the subject.

A discussion of this subject was continued by T. B. Stowell, Ph.D., Principal of the State Normal School at Potsdam, N. Y.

"The Candidate for the Degree of Doctor of Pedagogy should be Able to make Original Investigations in Experimental Psychology," was the subject of a paper by Edgar Dubs Shimer, School of Pedagogy, University of the City of New York.

"Child Study in Connection with the Professional Training of Teachers," was the subject of a paper by Miss Margaret K. Smith, of the Oswego State Normal and Training School.

"The Ideal Normal School," was the theme of a paper by Dr. Edward Brooks, Superintendent of Public Schools, Philadelphia.

LIST OF PERSONS ACCEPTING THE OFFICE OF HONORARY VICE-PRESIDENT OF THE DEPARTMENT CONGRESS OF THE PROFESSIONAL TRAINING OF TEACHERS.

ARGENTINE REPUBLIC.

- Prof. L. J. Avellaneda, Director Normal School, La Rioja.
Prof. Alejandro Carbo, Director of the Normal School for Teachers, Parana.
Prof. Mary O. Graham, Directress Mixed Normal School (Escuela Normal Mixta), La Plata, Province of Corrientes.
Prof. H. Leguizamon, Director of the Normal School for Teachers (Escuela Normal de Profesores), Buenos Ayres.

AUSTRIA.

- Herr Jos. Gugler, Director Normal School, Vienna.
Herr Karl Jauker, Director Normal School, Gras.

BELGIUM.

- M. Temmerman, Director Normal School, Lierre.

CANADA.

- John B. Calkin, Normal School, Truro, Nova Scotia.
D. J. Goggin, Principal Manitoba Normal School, Winnipeg, Manitoba.
Thomas Kirkland, Principal Toronto Normal School, Toronto, Ontario.
John A. McCabe, Principal Ottawa Normal School, Ottawa, Ontario.
Eldon Mullin, Principal Provincial Normal School, Fredericton, New Brunswick.

Dr. S. P. Robins, Principal Normal School McGill, Montreal, Quebec.
Th. G. Rouleau, Principal Normal School, Laval, Quebec.

FRANCE.

M. Gobin, Director Normal School for Men, Besancon.
M. Jacoulet, Director Superior Normal School, Saint-Cloud.
M. J. Sion, Director Normal School, Arras.

GERMANY.

Herr Ed. Ackerman, Director Normal School, Eisenach.
Prof. Dr. Carmuth, Provincial School Councilor, Director of R. Normal School, Königsberg.
Herr A. Fricke, Teacher, Braunschweig.
Dr. Ernst Gundert, School Councilor, Esslingen, Wurtemberg.
Herr Polte, Provincial School Councilor, Director Pedagogical Seminary for Secondary Teachers, Posen.
Dr. Schulze, Director Royal Institute for Teachers of Modern Languages, Berlin.
Dr. Bruno Stehle, Director Normal School, Colmar, Alsace.

GREAT BRITAIN.

ENGLAND.

Oscar Browning, King's College, Cambridge.
Rev. F. J. Campbell, Royal Normal College for the Blind, London.
P. A. Barnett, Esq., Principal Borough Road Training College, Isleworth.
Joseph H. Cowham, Esq., Westminster Training College, London.
Rev. E. Hobson, Principal of Training College, Tottenham, London.
Prof. John R. Langlee, Wesleyan Training College, London.
H. E. Oakeley, Esq., Chief Inspector of Training Colleges for Schoolmasters, London.
Rev. Dr. J. H. Rigg, Principal Wesleyan Training College, London.
Miss T. H. Bird, Lady Superintendent of Training College, Cheltenham.
Rev. F. W. Burbridge, M.A., Principal of Sattley Training College, Sattley, Birmingham.
Rev. R. M. Chamney, M.A., Principal of Church of England Training College, Cheltenham.
Rev. J. P. Faunthorpe, M.A., Whitelands House, Chelsea, London, S.W.
Rev. Dr. Greeves, Principal of Training College, Southlands, Battersea, London, S.W.
Miss Sarah J. Hale, Principal of Training College, Edgehill, Liverpool.
Miss Elizabeth P. Hughes, Cambridge Training Institution for Higher Teachers, Cambridge.
H. A. Reatchlous, M.A., Vice-Principal Westminster Training College, Westminster, S.W.

WALES.

Rev. C. G. Brown, B.A., Principal of National Society's Training College, Carmarthen.

SCOTLAND.

John Adams, M.A., Rector Free Church Training College, Aberdeen.
A. S. Baird, Esq., Free Church Training College, Glasgow.
Rev. James R. Leslie, M.A., Principal of Edinburgh Episcopal Female Training College, Edinburgh.
Dr. Thomas Morrison, M.A., LL.D., F.E.T.S., Principal of Glasgow Free Church Training College, Glasgow.

IRELAND.

Prof. P. Byrne, St. Patrick's Training College, Drumcondra, Dublin.

Prof. D. Corbett, LL.D., Marlboro' Street Training College, Dublin.
Prof. D. Croly, Catholic Training College, Drumcondra.
Prof. J. L. Doheerty, LL.D., Marlboro' Street Training College, Dublin.
Rev. H. K. Moore, Church of Ireland Training College, Dublin.

HUNGARY.

M. Géza Somogyi, Director Normal School, Znojvarajla.

ITALY.

Prof. G. O. Bonafede, Director R. Normal School, Avellino.
Prof. Oreste Bruni, Director R. Normal School, Florence.

JAMAICA.

Mrs. A. C. Johnson, Lady Principal Jamaica Female Training College, Sherwood.

NETHERLANDS.

Mr. L. Gerhardt, Director of State Normal School, Utrecht.

SPAIN.

Don Cesar de Equilaz, Secretary of the Central Normal School for Teachers, Madrid.
Don Agustin Sardá y Llaberia, Professor Central Normal School, Madrid.

UNITED STATES.

ALABAMA.

James K. Powers, State Normal College, Florence.
Miss Julia S. Tutwiler, Normal College for Girls, Livingston.
Prof. E. R. Eldridge, State Normal School, Troy.

ARIZONA.

J. H. Broomell, Territorial Normal School, Tempe.

ARKANSAS.

Joseph C. Corbin, Branch Normal College of Arkansas, Pine Bluff.

CALIFORNIA.

Charles W. Childs, State Normal School, San José.
Laura T. Fowler, Normal Department, Girls' High School, San Francisco.
Edward T. Pierce, State Normal School, Chico.

COLORADO.

Z. X. Snyder, State Normal School, Greeley.

DISTRICT OF COLUMBIA.

Miss Lucy E. Moten, Miner Normal School, Washington.

FLORIDA.

J. L. Skipworth, Florida Normal School, White Springs.

ILLINOIS.

Dr. John W. Cook, State Normal School, Normal.
Prof. John Hull, State Normal School, Carbondale.

INDIANA.

E. M. D. Eckels, Cumberland Valley State Normal School, Shippensburg.

James Eldon, Central State Normal School, Lock Haven.
 Theodore B. Noss, Southwestern State Normal School, California.
 J. P. Welch, State Normal School, Bloomsburg.
 Prof. W. W. Parsons, State Normal School, Terre Haute.

IOWA.

Prof. H. H. Seerley, State Normal School, Cedar Falls.

KANSAS.

Prof. A. R. Taylor, State Normal School, Emporia.

KENTUCKY.

Miss H. E. Brooks, President Hopkins College and Training School, Madisonville.

MAINE.

W. J. Corthell, State Normal School, Gorham.
 Miss Sarah McC. Taylor, Training School for Teachers, Portland.

MASSACHUSETTS.

Dr. Larkin Dunton, Boston Normal School, Boston.
 Prof. D. B. Hagar, State Normal School, Salem.
 Prof. E. H. Russell, State Normal School, Worcester.

MICHIGAN.

Miss Harriet M. Scott, Detroit Normal School, Detroit.
 Prof. J. M. B. Sill, State Normal School, Ypsilanti.

MINNESOTA.

Joseph Carhart, State Normal School, St. Cloud.
 Fannie S. Gupta, Teachers' Training Class, Minneapolis.
 Prof. Irwin Shepard, State Normal School, Winona.

MISSISSIPPI.

E. D. Miller, State Normal School, Holly Springs.

MISSOURI.

Richard C. Norton, State Normal School, Cape Girardeau.
 George L. Osborne, State Normal School, Warrensburg.

NEW JERSEY.

K. S. Blake, Newark Public School, Newark.
 James M. Green, New Jersey State Normal School, Trenton.

NEW YORK.

Dr. Thomas Hunter, New York Normal College, New York.
 Francis J. Cheney, State Normal and Training School, Cortland.
 John Gallagher, Training School for Teachers, Brooklyn.
 Edward N. Jones, State Normal School, Plattsburg.
 James M. Milne, State Normal School, Oneonta.
 William J. Milne, State Normal College, Albany.
 Mrs. Lena M. Norton, Teachers' Training Class, Rochester Free Academy, Rochester.
 Francis B. Palmer, State Normal Training School, Fredonia.
 T. B. Stowell, State Normal and Training School, Potsdam.

NORTH CAROLINA.

F. M. Martin, State Colored Normal School, Salisbury.
 G. H. Williams, State Colored Normal School, Fayetteville.

NORTH DAKOTA.

James McNaughton, Mayville State Normal School, Mayville.

OREGON.

W. T. Van Scoy, Drain Academy and State Normal School, Drain.
 F. J. Van Winkle, Eastern Oregon State Normal School, Weston.

PENNSYLVANIA.

Martin G. Benedict, State Normal School, Edinboro.
 A. J. Davis, State Normal School, Clarion.
 George W. Fetter, Girls' Normal School, Philadelphia.
 Prof. G. M. Phillips, State Normal School, West Chester.
 Charles W. Deane, Indiana Normal School of Pennsylvania.

RHODE ISLAND.

George A. Littlefield, Rhode Island State Normal School, Providence.
 W. E. Wilson, State Normal School, Providence.

SOUTH CAROLINA.

D. R. Johnson, Winthrop Training School, Columbia.

SOUTH DAKOTA.

W. H. H. Beadle, State Normal School, Madison.
 Fayette L. Cook, State Normal School, Spearfish.

TENNESSEE.

Judson S. Hill, Morristown Normal Academy, Morristown.
 Dr. William H. Payne, Peabody Normal College, Nashville.

TEXAS.

J. M. Carlisle, State Superintendent Public Instruction, Austin.
 H. C. Pritchett, Sam Houston State Normal School, Huntsville.

VERMONT.

A. H. Campbell, State Normal School, Johnson.

VIRGINIA.

James Hugo Johnston, Virginia Normal and Collegiate Institute, Petersburg.

WASHINGTON.

W. J. Sutton, State Normal School, Cheney.

WISCONSIN.

J. Q. Emery, State Normal School, River Falls.
 L. D. Harvey, State Normal School, Milwaukee.
 Duncan McGregor, State Normal School, Plattsville.
 Prof. G. S. Albee, State Normal School, Oshkosh.
 Dr. Albert Salisbury, State Normal School, White-water.

PROFESSIONAL TRAINING OF TEACHERS.

OPENING ADDRESS.

BY THE CHAIRMAN, DR. E. A. SHELDON, PRINCIPAL OF THE
OSWEGO STATE NORMAL AND TRAINING SCHOOL.

It is more than two hundred years since the first school was opened for the training of teachers. For the first hundred years this movement had a tardy growth. Since the days of Pestalozzi and the reformatory movement in educational methods, this idea of the necessity of seminaries for the training of teachers has taken a strong hold of the educational thought in all countries, and these institutions have multiplied in a wonderful way. Great liberality has been shown by legislative bodies both in our own and other countries in the appropriation of money for the establishment and maintenance of institutions for the training of teachers. They no longer have to be urged upon the public or put on the defense. The friends and advocates of these professional schools may now turn their attention to methods of improving and strengthening them all along the lines of organization and methods of administration. We are assembled here to-day to consider in what directions such improvements may be made.

The occasion is one of unusual interest—such as never before occurred in this country. We have with us to-day distinguished representatives from other countries, where these training institutions have been much longer established, who will bring to us a much ripper experience, and be able to make suggestions that will be of great value in the conduct of our American schools. We consider ourselves greatly honored and highly favored by the presence of such representatives, and we welcome you most heartily to this international conference. We trust there will be a disposition on the part of our foreign friends to take an active part in all our deliberations, and give us, your younger neighbors, the benefit of your accumulated wisdom. We have learned much from you in the past, and we fully realize that we have much more to learn.

Our normal and training schools have been very largely modeled after your own, and we desire to incorporate into them all improvements that your ripper experience has found worthy of adoption. We gladly sit as learners at your feet, and we trust you will as freely occupy the position of instructors. If you have formed the opinion that “Young America” is

self-sufficient and somewhat egotistical, we trust that this meeting will prove to you that we are quite as ready to learn as to teach.

Many points of great interest are to be brought before us at this meeting for our consideration, and you can teach us many things that will be of great service to our American schools. Some of these questions have already been printed and circulated, and I need not now allude to them. We will thank all foreign visitors, and any others who are willing to take part in these discussions, to send their address to the president's desk. This will remove much embarrassment that might otherwise occur in overlooking persons whom we desire to recognize, and in the proper record and announcement of names.

Teaching under criticism is the most important work in the training of teachers, and it is not practicable to give a proper amount of work to more than fifty teachers at the same time. In our experience, at Oswego, we have found that not less than five months of unbroken practice are necessary, and that after an equal length of time given to the most careful and thorough preparation, by way of grounding the pupils in training in educational principles, and their application in teaching the various branches of study. An ordinary school of three hundred pupils will give at the end of each term of twenty weeks a class of about fifty for the school of practice, and this is as many as can profitably be employed where there are not more than four hundred children to be taught.

If this estimate is correct, and we have found it so in our own experience, then the number limit ought not to exceed three hundred, or at the most four hundred, pupils. Something, of course, will depend on the requirements for admission and the demands of the curriculum, as well as the arrangement for advanced standings on certificates. The English course of study in the New York schools is three years, and the classical four years. The first two years are given exclusively to the required branches of study, and the last year to purely professional work—the first half to theory, and the last half to practice under criticism. Liberal credit is given to work done in preparatory schools, and pupils are admitted to advanced standings on certificates.

With this arrangement, a school of from three hundred to four hundred pupils will graduate from one hundred to one hundred and twenty-five each year, and if these are divided equally between the two terms, this will give a class of fifty each term, and this is as many as can be profitably employed in any ordinary school of practice.

An evil in our American schools is the overcrowding of our courses of study. We, as a rule, require more than can be done with the degree of thoroughness requisite in one who is to teach these branches. It is not unusual to require from five to seven daily recitations. Only those who are the strongest both physically and mentally can endure the strain. Many collapse under the pressure, and it is very questionable whether

those who survive have received the treatment most conducive either to knowledge or growth. In our judgment a less number of subjects and, what is better, a longer time ought to be given.

Shall manual training be required as a part of the professional equipment of the teacher? is a question about which there seems to be a difference of opinion. Some schools require this work as a part of the training, while a large majority do not. This question, in our judgment, is one of no mean importance, and we trust some opportunity may be found for discussing it. As a rule, teachers are very helpless with their hands. They have no knowledge of the most ordinary tools, and much less practically of their use. If the most simple piece of apparatus is required, they have no ability to produce it. It is desirable that training in this sort of thing should be encouraged in children, even where no regular shop-work is required. In all this there is something of education, to say nothing of its convenience and general utility. For these reasons, it seems to us that we have sufficient excuse for demanding that every pupil who is in training for a teacher shall become sufficiently acquainted with and expert in the use of tools to construct such simple apparatus as may be found necessary for illustration and experiment in his school-work.

I will take the time to call attention to but one more subject; namely, that of the *physical training of the teacher*. To a very great extent our normal pupils are drawn from the rural districts. One might naturally suppose that they would be possessed with sufficient physical vigor to be independent of any further physical improvement. Experience, however, teaches us that this is not true. Overwork, inheritance, ignorance of the laws of health, and other causes leave them with weakened bodies, broken health, rigid muscles, an awkward gait, and ungainly manner. For these reasons, and in view of the fact that they are expected as teachers to give physical training to the children in their schools, it becomes a matter of the highest importance that they should have the most careful and thorough training in this direction. The training should be such as to give health and vigor of body, agility to the muscles, grace and ease of manner and carriage, force and power in all bodily movements and expression; and the method of training should be such as to produce these results, and by such methods that this training can be reproduced in the ordinary schoolroom, whether in the city or country district school.

A few schools are favored with gymnasiums and apparatus adapted to a systematic course of physical training. This is all good, provided they are employed under proper guidance and direction; but to turn children, or even adult pupils, into a gymnasium, or put into their hands the ordinary apparatus employed, may and is likely to result in more harm than good unless directed by wise, intelligent supervision. To make such appliances useful, or even safe, the teacher in charge should have the most thorough

knowledge of the human constitution and its needs in the minutest detail, so as to be able to decide as to what apparatus to employ and how to use it, both as to manner and extent, in order to produce the desired results without harm to the pupil. This requires a knowledge of each individual case. Every pupil must be carefully examined by an expert, and proper exercises prescribed for each individual and supervised by some one who is also an expert. Now these are conditions not often found in our public schools, and, however much they are to be desired, we may readily believe that the time is somewhat in the distant future before such provisions will be generally realized. In the meantime we must take the schools as we find them, and meet the requirements as they exist and with the facilities afforded us, and this means without either gymnasium or apparatus. If these suppositions are correct, and I am sure no one can question them, then the training of the teacher should be such as can be reproduced with the children in the ordinary public school.

The question, then, that interests us is to know whether a system of gymnastic exercises cannot be devised that will meet all the conditions we have supposed and at the same time accomplish all the desired results. Such claims are made and seem to be sustained by strong and reliable testimony. One claim is made for these free gymnastics that is not met by any system of heavy gymnastics so far as I am aware; that is, the careful training of the vocal organs. There is, perhaps, no more fruitful source of disease than the weakness of these organs, and nothing certainly more essential to usefulness and success in life than their health and vigor. Every consideration would indicate the necessity for the most careful and thorough training of these organs, and any system of physical culture that leaves out this important element is defective at a vital point. No system of physical training can be regarded as complete that does not include the training of all the organs of the body.

I have now called attention to defects that seem to be quite common in our schools for training teachers, with a view to provoking discussion, if the opportunity offers. That they may be put in proper form for this purpose, I will restate them.

(1) What number of pupils can be properly and advantageously included in an institution for the training of teachers?

How many can profitably be employed at the same time in the school of practice?

(2) How many subjects can be profitably carried on together by the ordinary normal school pupil?

What subjects ought to be included in a course of study designed for the training of teachers for our intermediate or secondary schools, and how much time should be given to it?

(3) Should our normal schools include a course in manual training?

(4) Should our normal schools include a thorough course in physical

training? If so, shall we encourage a system of heavy or light gymnastics?

It is quite doubtful whether our time will allow of the discussion of any one of these subjects, but no harm can come from calling attention to them, and if the opportunity offers any one of them may be called up at any time.

THE VALUE OF PRACTICE WORK IN MODEL AND TRAINING SCHOOLS.

BY MISS FANNIE S. GUPTILL, MINNEAPOLIS, MINN.

By practice work is generally understood the conducting of recitations by pupil teachers placed temporarily in charge of classes of children, under the supervision of one or more critics, for the culture of teaching power in the student so placed.

The value of such work as a means to such culture must necessarily *vary* with the knowledge the young teacher possesses of the subject she is teaching, with her conception of the object for which she teaches, and with the conditions under which such practice is obtained. This *practice* should include all the exercises of the student from matriculation to graduation; all theoretical work should be thoughtful practice toward the end of *skill in teaching*, and *special practice* with children must have its definite place as the crowning and perfecting work of the course.

As one who is to become a skilled musician must be held to severe technical practice until the muscles have acquired flexibility, accurate mechanical action, and ready response to an idea, so one who is to become a skilled teacher must apply herself to the acquiring of the technique of the teacher. The one is not expected to play the difficult sonata at sight, combining interpretation and execution, instantly and faultlessly, before facility, intelligence, and correctness are acquired; why should the other be required to manipulate all the forces of the recitation before she has become to some extent the embodiment of intelligence, correctness, and ease?

An easy, graceful, yet controlling carriage of body; frank, well-controlled facial expression; a voice firm, kindly, and well modulated; an eye that shall do the work too often attempted by the tongue; self-control; the art of telling a story, aptness in illustration, skill in the expression of herself, promptness and precision in conducting the so-called mechanical work of the schoolroom—these are the difficult passages in the technique of the teacher which must be acquired by training, and which must be mastered before she is required or expected to control, interest, and instruct children in a forceful and skillful way.

Wordsworth struck the keynote of true teaching when he said of his Wanderer :

“ His limbs
And his whole figure breathed intelligence.”

And again,

“ He had rehearsed
Her homely tale with such *familiar power*,
With such an active countenance, an eye
So *busy*, that the things of which he spake
Seemed present.”

The mistake too often made is that of placing a young teacher in charge of children to experiment with them before her body has learned to breathe “intelligence.” While her ideas are somewhat indefinite, her expression faulty, her manner hesitating and conscious, she has none of the “familiar power” which makes things seem “present” and vivid to children. Children detect the crude work and become unteachable. That such practice with children does not make a perfect teacher, or supply the “familiar power” just mentioned, is abundantly proven in the fact that the poorest teachers are often those who have spent their lives in the schoolroom. By continued practice, without attention to the guiding principles of the art of teaching, they have degenerated into mere plodders, and it is common to hear a teacher criticised as having taught so long that he “runs in a groove.”

It is well known that mere action without regard to the laws of mental or moral growth or of physical development engenders weakness instead of strength in either of these phases of our being, and that action in any line develops power and skill only when it is inspired by correct ideals and is in harmony with the laws of development in that line. It follows that teaching will be a vague process, a waste of time and energy, until the teacher has incorporated much of knowledge and theory into her personality. Some practice with children may, indeed, accompany such acquirement of theory, as the illustration of an idea, for, while true practice applies the knowledge that guides it, it also interprets and makes that knowledge clearer, and the theoretical side is better understood when supplemented by intelligent practice. But a young teacher can take no step wisely in practice work until she has made a threefold mastery for herself : in a knowledge of the subjects to be taught, in a knowledge of approved processes of teaching, in acquiring correct ideals for herself as a teacher.

There are those who argue that if one have teaching ability she will teach successfully without training in a special school, but modern requirements in the schoolroom demand a professional appreciation of the needs of the education of to-day. Experience shows that young ladies from high-schools and from country schools have only a school-girl appreciation

of the common branches of study, especially of those that are fundamental—reading, geography, arithmetic, and language. They are conscious that they know something of these subjects, but they have never conceived of the processes by which they were made to know. To teach these subjects, or any subject, a different knowledge is necessary. They must be compassed in a broad, analytical way that will place the facts and principles of each, as a science, in bold relief in the mind, and articulate such facts logically, so that the recalling of a subject recalls its conditions and principles, itself complete as an art. This complete knowledge is a knowledge of principles so mastered that they become unconscious guides in teaching and make the teacher something of an authority on each subject.

A knowledge of the history of education, of the most approved method of teaching, and of school organization and management, is indispensable. Not because the teacher is to be a *copyist*, but as equipment for her work. She must add to her knowledge by an understanding of the psychological processes involved in learning—a knowledge of the order of development of the child mind, and something of the nature and value of moral training. With the acquirement of such knowledge there should be much careful observation of the work of the best teachers—the wider the observation and study of such models, the higher will be her ideals; the more correct the ideals, the greater the value of practice when it is undertaken. While this gradual and healthy growth toward achievement is being fostered, she must also acquire insight to determine conditions quickly. Thus equipped, the young student will easily break out into a method of teaching, and under inspiring guidance practice with children will be intelligent, orderly, without harm to the children, and productive of growth in the teacher, thus answering its truest purpose.

Practice must vary with her conception of the object for which she is teaching. Many teachers never conceive a higher aim than “to do” a prescribed number of exercises, or “to go over” a required amount of work in a given time. Pupil teachers should early be emancipated from the drudgery idea of a teacher’s calling; if, indeed, they are allowed to form so narrow a conception of it, they should be led into a larger development. Theoretical training should gradually instill into the mind the fact that the efficiency of all the forces in the recitation depends upon the teacher. From all possible standpoints the teacher should be made to view the recitation as a means of character building; attention, study, accuracy, promptness, skilled language, as elements contributing to the sum total of a symmetrical character, and herself as the manipulator of the mental processes and moral impulses that combine as the governing forces of the life of the child.

A father, wishing to illustrate the effect of a wrong act, said to his son: “Bring me a piece of pine, a hammer, and a nail, my boy.” “Yes; here they are, father.” “Can you drive the nail into the pine?” “Yes; easily.”

"Can you draw it out?" "Yes; that is easy, too." "Leave the pine as you found it." "I cannot; here is a hole." "Draw out the hole." Contemplating it a moment: "*I can't draw out the hole,*" said the boy. The application is apparent. It is judicious to allow only the minimum of scar-making practice. She who has little conception of the real aim of teaching should not be allowed the opportunity of making "holes" that she cannot "draw out." The direct effect upon the child, the reflex effect upon herself, alike forbid it.

How shall the young teacher acquire so much of mature knowledge and insight in the brief time allowed in most training-schools for the completing of the course? By early acquiring the ability to judge her own work. By making from the beginning of her training a daily, careful study of herself, and determining in what she is excellent and in what she fails. Habit, instead of attention and will, is the controller of action in most persons. In the training-school this must be reversed, and the first work is to break up habits that hinder, and to acquire those that facilitate, the teacher's work. Her modes of thinking, the manner of expressing her thoughts in words, her habit of standing and walking, qualities and cadence of voice, which are often in direct opposition to the idea she means to convey—in short, *mannerisms* of whatever nature which will be a *hindrance* to the teacher, must be corrected and eliminated by daily care in her regular class-work. Under wise criticism she will soon become conscious of the sources of her strength and of the particular lines in which she may fail.

Self-control is the key to the control of others, and daily practice in this art will give increasing strength in the power of true discipline. Constant study of the best models in speech and bearing, daily practice in the power of appeal, of story-telling, of all the controlling force and charm there is in natural expression, and firm but pleasing manners, does not require the presence of children, but should never be lost to sight in the daily didactic work. Studying, reciting, always with the thought that the only expression she has is the impression she makes, she should study to express a grand and noble character. Practice with children cannot give this culture; having acquired this culture, her practice will be a power with children.

It will be seen that the first half year of training should be occupied with practice in acquiring. This more general practice should be under the constant supervision of a competent instructor and critic, one who is not crystallized into the idea that *fault-finding* is criticism. Study and recitation are not alone the special work of the theoretical period. Each student must daily be made responsible, in addition to these, for the preparation and teaching of a certain portion of the class-work; should be required to *instruct* in a dignified and intelligent way. Lessons in elementary science, music, drawing, geography, and history may well be

placed in charge of the students, under the supervision of a regular instructor. This instructor should criticise the preparation, the plan, the manner of instructing, and supplement all deficiencies, teaching one lesson a week in each subject herself so that there be no loss. This general practice should include blackboard exercises, map drawing, and all illustrative work necessary to good teaching; it will develop independence, ease, and facility of expression, and is the best means of overcoming nervousness. Much observation in all grades of schools is necessary during this period, and at the close of this half year, with ideals formed, some skill gained, and a purpose in working, the student is ready for the special practice with children. Such practice is necessary for the completion of her work.

All who have had experience in training schools agree that there is something unsatisfactory in all plans for practice so far tried, and the conditions conducive to the best results of practice have not yet been determined. The constant supervision of critics hampers the student with a sense of being watched, confines her to a routine and to the mechanism of form in instruction and drill; spontaneous, free, original work is obscured by devices and methods; criticism itself too often degenerates into *cant* expressions, stereotyped phrases. The continued experiment upon children by novices is disastrous, indeed, to their proper development, and practice work under the best known conditions is a struggle. How secure the best conditions? how determine the amount and kind of practice? how protect the children from crude work?—these are the questions for the hour.

There are three general plans for practice: the giving of regular lessons to classmates; substituting for absent teachers in ward schools; and teaching in a model school. If, in the first, the class must imagine themselves children and understand and talk like children, the work has no value; it impresses all as being a counterfeit. The real value of teaching classmates we have already noticed, but this plan gives no knowledge of children. Taking the places of absent teachers in ward schools is of some value. It throws a teacher upon her own resources, forces her to be alert and self-reliant, tests her versatility, and shows her what may be expected in a schoolroom. *Experienced teachers* are not always successful as substitutes, however, and it is a question whether the *training teacher* should be called upon to do work that is attended with so many discouragements.

There are grave doubts as to the value of placing a novice in charge of a room in a model school, under the eye of one or more critics. It embarrasses and limits her at the outset. Constant restraint and fear suppress much of her living power. It is impossible for her to get control of children under such conditions. Such practice is not an absolute test of her ability; it is not absolutely of greatest value, yet it approxi-

mates toward the most valuable plan. Since no two persons can be successful with the same method ; since too much criticism is an injury to the student, the instructors in a training school should leave the pupils largely to themselves in practice—*i.e.*, give them as large liberty as possible in working out their own ideas, and at the same time they should know what the pupils are doing. It seems absurd to require a class of students, having individual abilities and capabilities, to “go through” the exercise of teaching always after the same model. If each student has become familiar with the approved “best methods,” she should allow her individuality to show itself in the application of methods. If instructors have confidence in their students, *observation* may take the place of much critic work. The student should ever be a critic of her own work ; she should keep a daily record of the lessons she prepares, the object for which each was prepared, and the result she secured in the teaching. She should be questioned daily as to the points in which she felt conscious of failure.

The state normal schools have not all ideal conditions for practice. The city training school may secure them ; let it be connected with a ward school, and under the same management, that there be no conflict as to work. Permanent teachers who are model instructors should be placed in charge of the rooms in this school. From these rooms students may take small classes to recitation rooms, each being in charge of one subject each month, for five months. This subject shall be her special study, her reading and observation contributing to it for the month. She must keep the work of the class up to that of their fellows who remain under the regular teacher, and be responsible for good order. Once a week the regular teacher may test or supplement their work.

It is not necessary that a critic be in constant attendance upon these students, to see that everything is done according to a prescribed form. At regular intervals, at least once a week, she should visit each student, note errors, excellence, and improvement. Her criticism should be directed toward salient points of inefficiency or failure ; trifles should be left to gradually disappear with the growth of the student in her profession. Her criticism should not be given on the spot ; the tendency is to weaken the student in the estimation of the children.

Each student conducts one recitation each day. The other periods are given to observation and recitation in professional work. There should be one period at last in which all assemble for criticism. Here let the critic judiciously state the results of her observing, and give *all* the benefit, for it will be observed that certain faults are general and the same criticism applies to all students. Where there are special tendencies to failure, individual criticism is necessary. Changing the work of each student each month gives each practice in all the elementary branches and with several grades of pupils. Students who have weak presence,

who lack decisive manner, are unskillful in methods, and show poor judgment, should be placed under discipline other than practice with children until they have corrected all such faults. *In no case* should children be submitted to the mistakes and imperfect experiments of such students.

We have considered at length the value of practice. We have learned that it is of no value except as it illustrates an idea of the person practicing, and is in accord with the principles of teaching; also, that its value is based upon the knowledge possessed by the student, upon her conception of the purpose for which she practices, and upon the conditions under which she practices.

To summarize briefly, then, we find these thoughts:

(1) Practice is necessary to show the novice what children are like, to accustom her to their activity, to discover to her how she may interest them, to give her familiarity and ease in managing them.

(2) It is also necessary to illustrate ideas, to interpret and make practical theories, and to crown and complete the work of preparation.

(3) Its proper time is after the special preparation in theory; yet some practice should accompany study and observation during the theoretical period.

(4) The preparation necessary includes a special knowledge of the elementary branches of study, a knowledge of the history of education, of the best methods of instruction, and of elementary psychology in its relation to instruction. It should also include a study of self for firmness, ease, force, aptitude—in short, skill. Too little attention is generally given to this division of study.

(5) Observation of the work of model teachers is of utmost importance and should be a daily requirement. It defines and elevates her ideals. The observer should know what she is looking for, and should write the result of her observation.

(6) Criticism should show the student whether she is successful, and how to be successful. It should follow her through her entire course, but the critic should not follow her through all her operations. That spying criticism which must see the plan of every lesson, must stop the student in the midst of an exercise to correct a trifling mistake, or to say "You mustn't teach this *so*," is all wrong. Criticism must aid her to develop individuality. It is of most value when it calls attention to the salient points of teaching, viz.:

(a) The preparation of the lesson as to the points to be taught; their logical development; a summary for fixing them in the minds of the pupils.

(b) The teacher's controlling force, or grip upon her class. Does she command each child's interest, attention, respect? Does she talk too much? Too little?

(c) What impression does she make as an instructor? Does she make instruction clear? Is drill sufficient? Does she teach all the class?

(d) Is her manner attractive or repellant?

(7) The best plan for practice is that which places a permanent teacher in charge of each grade or class in the school for practice. She should be a model teacher, should do a part of the teaching, and should criticise and help the students. This plan keeps the children's work well organized and the children well disciplined.

(8) Sending students to neighboring schools to observe is valuable if they see good work; they should see the minimum of poor teaching. If they are strong, they may assist teachers in various schools; indeed, it is well for them to become familiar with the mechanical processes of passing material, correcting exercises at seats, giving drawing lessons, conducting recesses, and other work which may be thus learned without effort.

(9) Substituting in ward schools throws a teacher upon her own responsibility and gives much valuable experience. Pupils thus taught are too apt to try experiments with the substitute, however, and she may not be equal to the discipline.

(10) Practicing on classmates is of great value. Here the student gains confidence, easy language, must be clear in statement, and logical in planning her work. Much of this should be done.

(11) Instructors should have ideas upon subjects other than those which they teach. All instructors in training-schools should be able to criticise and make suggestions in any branch of study in the course. But all should be amenable to one wise, kindly critic.

(12) There is a kind of skill that comes with experience in teaching that cannot be acquired in a training-school; but sound scholarship and the power to readily control and instruct a class should be the basis of granting a diploma, and until these are acquired the diploma should be withheld.

So shall the practice of training schools, used as a means of expression for a live teacher, be of value to her in that it gives her an opportunity to vitalize methods, to put a soul into the devices of the schoolroom. Shielded from the opportunity of putting herself in bad repute with children by practicing before she knows how, she acquires confidence from the first, and her practice becomes the agent of true culture in her profession.

*HOW SHOULD NORMAL SCHOOL PUPILS ACQUIRE
METHODS OF TEACHING?*

BY SIGNOR GIACOMO ODDO BOMAFÉDE, DIRECTOR OF NORMAL SCHOOL,
ALVELLINO, ITALY.

[READ BY MRS. C. L. PLACE, ST. PAUL, MINN.]

Ought pupils in normal schools to acquire the methods of teaching by didactic instruction, or by giving lessons upon the various elementary subjects in the apprentice schools?

To instruct and educate children means to fit the natural man for the citizenship to which the social life shall give the last shading. The work of the master resembles that of the sculptor who cuts the statue out of a block of marble. As the sculptor requires art and tools, hammer and chisel, so the schoolmaster needs the art of instructing and educating, and the instrumentalities which schools furnish.

Our theme refers to the method of teaching; it does not take into consideration those natural tendencies which exert so great an influence upon the character of the teacher and modify the exercise of his art and profession, and hence must restrict the capacity of which I speak to merely simple acquaintance with the methods and with their application in teaching.

Before all I assert that a method to be perfect must spring from two elements, one intellectual, the other experimental. A method merely experimental would fail in the requisite most essential to it as a method. A method solely rational would fail from the want of that intelligence which grows out of experience, and which constitutes the good sense necessary to the proper application of the general rules of reason relating to the specialty of the school and its aim in human society. It is evident that two such elements of method possess two distinct fountains: the rational element has its source in science and in philosophy; the experimental element has its source in practice. Hence it may be concluded that normal pupils should acquire the methods of teaching from practical instruction in the normal schools.

Practical instruction must be founded on philosophy, not only because without philosophy it is impossible to know what the child is—that is, the subject of instruction—but because through philosophy it is possible to understand the distinctions between things and ideas, between words and things, between words and the mind of the child, between the affections and the objects of affection, between the first impressions and the whole life, between the man and his destiny, between the external and internal powers of the mind. For it is plain that without such knowledge the

teacher must be deficient in that which is requisite to fit him for his duties. In ancient Greece, masters, teachers, and philosophers did not live for nothing. The most experienced schoolmasters of the present day are those whom philosophy has given us.

Now, in some parts of Europe philosophy, banished from all the schools, has not succeeded in finding a refuge in normal institutes. In Italy the governing programme prescribes a brief study of psychology, but so brief that it cannot prove efficacious. It ebbs and flows in the terminology of facts and psychic phenomena, paying no attention to the unfolding of the subjects themselves. Practical instruction in the normal schools is restricted to a general method very little conformable to philosophy, and to a special method for teaching various subjects. The first is a mass of precepts and rules, sometimes not agreeing with themselves; the second is the result of experiences or of attempts made in schools, often indefinite in their force and efficacy.

In order to draw the methods of teaching from practice in the apprentice schools it is necessary either to apply the altruistic method, which will not be suitable in all schools nor in all circumstances, or to make a trial of the peculiar views upon the alumni as in *corpore vile*. In the first case we shall find teachers who have no resources when they meet a novel difficulty; in the second case, society will have to complain that the children do not go to places of education and instruction, but to places where they are experimented upon in the name of education.

The normal school ought to be essentially philosophical and practical. It ought to be essentially philosophic because its ultimate aim is the education of the man in himself and in his varied relations with all that is outside of him. It will be impossible to teach normal students to educate a child intellectually, morally, and physically without first teaching them what man is and what a child is, what are their faculties, what are the ways by which they can be developed, what are the means by which they can be guided, and, finally, what are the instrumentalities adapted to so great a work. This knowledge is vastly important. It is enough to visit an elementary school to find out instantly when philosophy does not rule in it.

The normal school ought to be essentially practical, and may be such through the apprentice system, as soon as it is modeled upon the precepts and requirements of philosophy, and the teachers in the schools of apprenticeship instruct with wisdom. Then the normal pupil will be able to see how the knowledge works among the children, and so may become an efficient teacher.

I think that knowledge and practice in the art of educating should exist in that art as in all other arts; but practice must spring from science, for science is reason. Any practice that does not come from science and philosophy is merely empirical and can only produce an imperfect school.

I know that certain attainments stimulate persons to aspire to positions higher than that of an elementary school; but if civil society should understand better and treat better its teachers, the elementary school would be esteemed before the others.

METHODS OF TRAINING TEACHERS AT THE WESTMINSTER TRAINING COLLEGE, ENGLAND.

BY JOSEPH H. COWHAM, LECTURER ON EDUCATION AND MASTER OF METHODS, WESTMINSTER WESLEYAN TRAINING COLLEGE, AND REPRESENTATIVE OF THE WESLEYAN COMMITTEE, ENGLAND, TO THE INTERNATIONAL EDUCATIONAL CONGRESS AT CHICAGO.

THE adult certificated teachers in the government schools of England number about fifty thousand. Of these, sixty-eight per cent. of male teachers and forty-six per cent. of female teachers have been trained in one or other of the thirty-eight training-colleges connected for the most part with the religious denominations. The teachers who have passed through a training-college are termed "trained," whilst those who have not been through a training-college are termed "untrained." The proportion of trained to untrained teachers is increasing. This increase arises from the fact that a smaller proportion of untrained teachers proceed to the necessary certificate qualification now that the examination for these certificates is the same as the final examination in the training-colleges.

It should be remembered that those who enter the profession without the two years in a training-college have in most cases served a four years' apprenticeship as pupil-teachers, together with two to four years as assistants in the government schools. These so-called untrained teachers may therefore fairly claim to be placed amongst the trained, seeing that they have now to pass the same examinations as have the students in our training-colleges, and that they have furthermore to keep up their connection with the actual practice of teaching by maintaining themselves as teachers in schools throughout the whole of their probationary period.

My object in this paper is more particularly to set out the methods by which we in Westminster seek to give an adequate training to those teachers who take advantage of two years' special preparation in a training-college. These have in nearly every instance served from three to six years' in the capacity of *pupil-teachers* and assistants under trained and certificated headmasters. These pupil-teachers begin their work at fourteen years of age, and during their pupil-teachership combine intellectual study with professional practice. In the larger school boards (London, for example) the pupil-teacher spends the first two years in the observation of the work of an adult certificated teacher during one-half of

each day, the remainder of the day being spent in continuing his or her intellectual exercises at a pupil-teacher center conducted on the lines of a high-class school. The pupil-teacher is not allowed to begin the exercise of teaching during the first two years of apprenticeship.*

It is acknowledged that there are certain portions of many school lessons which after the first year of observation the pupil-teacher is quite competent to undertake—as, for example, the hearing of reading, the working of examples in arithmetic, the supervision of a writing-lesson, and the correction of exercises in geography, grammar, history, and elementary science. In this way the pupil-teachers gradually acquire skill in the management of children, and facility in the methods which their adult superiors adopt in the presentation of knowledge. They thus acquire a valuable store both of experimental knowledge and of practical skill. They understand as yet but little of the theory of education and nothing of the psychological principles. Their work is mainly directed by a close imitation of their teacher's pattern. It consists almost entirely of the empiric application of observed rules. But it is none the less valuable within the above-mentioned limits. At the same time they are gaining a skill in the teaching art which, unless acquired at a comparatively early stage, rarely develops into the highest style of teaching ability.

Their intellectual progress is tested by a government examination at the end of each year, and the entrance to a training-college is made dependent upon passing the Queen's scholarship examination at the end of the fourth year. Only two attempts at this examination are allowed. After the second failure the pupil is barred from further progress in the profession.

In this way the training-colleges are provided with material which has been carefully prepared in the region both of intellectual ability and of professional skill. During the two years' residence in a training-college the student continues his intellectual training alongside of special direction in the higher professional knowledge of his calling. I may leave the curriculum of intellectual study by simply remarking that at the end of his course the teacher who passes the second year's certificate examination in the first class is credited (by those who have the opportunity of comparison) with having knowledge equal to that of an ordinary pass degree at either Oxford or Cambridge University.

The methods by which the student in a training-college is prepared for the professional part of his career, whilst in the college, are as follows: During the first year of training he is required to make a complete study of the principles of education so far as these are evidenced in the best methods of teaching the ordinary subjects of school instruction. Further-

* This is the practice of the London School Board. It should be understood that this is not the rule of the government department. The department desires that the pupil-teacher have as much time as possible for observation and private study.

more, he is required to have a knowledge of the psychological processes by which knowledge is obtained through the *senses*, together with the best methods of exercising and training the powers of *observation*, *memory*, and the *imagination*.

It is found that the store of experimental knowledge which the student has already gained in the practice of teaching during his pupil-teacher-ship provides a fund of illustrative examples by means of which the principles of mental science may be fully elucidated. Besides the college lectures on the theory and practice of education, three weeks are spent in teaching the various classes in the practicing schools attached to the training-college. The three weeks spent in these schools are about equally divided between the actual teaching of classes and the observation (*a*) of model lessons, (*b*) of modes of school organization, (*c*) of school buildings, and (*d*) of the most modern school apparatus.

So far as the practicing schools of the Westminster Training College are concerned, we are able to present a considerable variety of teaching experience to the student. We have first the infants' school, in which the kindergarten exercises are fully displayed. This school presents a laboratory of sense training. The student does not actually teach in the infants' school. He is expected simply to take notes of the methods of teaching and to make use of these methods in illustration of the principles of sense training. We hold that this contact with the actual processes of sense training gives a reality and fixedness to the study which no amount of mere lecturing could possibly secure.

Westminster College was the first of the English training-colleges for male students to make use of the infants' school for the purpose named. Our example has been followed by many others. Use is made of the junior school of children from eight to ten years of age to place the student in actual contact with the best methods of exercising the higher form of observation, of memory, and of the imagination. In this school the student both teaches and observes. The curriculum of the senior school is made so as to secure the most fitting subjects for exemplifying the above intellectual operations.

Elementary science in the form of object lessons, geography, drawing, besides lessons in reading, writing, and number, are the chief school exercises. The lectures in the college are made as far as possible to synchronize with the lessons observed and given in the schools. In this way theory and practice are coördinated, and at the end of the year the two, so far as one-half of the science and art of teaching is concerned, have become complete. An examination at the end of the year is conducted by the government officials. This examination covers the entire range of intellectual and professional study, and as a result the students are ranked in three divisions according to proficiency.

The professional training of the second year is a continuation of the

work begun in the previous year. In mental science the student is required to make himself familiar with the abstract processes of thought, including the formation of *general notions*, the exercise of the *judgment*, and the various *processes of reasoning*. These topics are discussed by means of oral instruction in the college. Along with the college lectures the student is required to observe the methods by which the school lessons may be made helpful to the exercise and development of these abstract intellectual processes. For three weeks during the year the student observes and takes part in preparing and giving lessons in science, in the rules and principles of grammar, on the higher processes of arithmetic, and on various topics in language and history. Theory and practice are thus combined throughout the entire course of training. The second-year student is furthermore expected to make himself familiar with the writings of Spencer, Locke, or Quick, and to have a full knowledge of school organization, hygiene, and discipline.

At the end of the second year's course the student presents himself before her Majesty's inspector of training-colleges to give one of three specimen lessons selected by the inspector. In order to prepare for this final ordeal and at the same time to develop his power of presenting knowledge in accordance with the rules of modern educational science, every student in the college takes part in weekly display or *criticism* lessons. Each student during the two years of training presents himself no less than twelve times for this trying exercise. During the same time he hears, and takes part in, the criticism of nearly one hundred lessons given by his fellow-students. Besides these criticism lessons by the students themselves, model lessons on every branch of school-work are given every week for the students' observation by the experienced headmasters of the practicing schools.

During the past two years a few students have advanced to a third year's professional training. This third year of training may be in the same college as the first two years, but permission is given by the government for the student to change to another college either in England or abroad. Sufficient experience has not been gained to determine the value of this extended period of training. Another departure in the training of teachers recently tried is that of the establishment of day training-colleges. Of these I have no direct knowledge, and therefore do not venture to speak.

I find that the increased care in the selection of pupil-teachers, and the greater attention which is being given to their systematic instruction, are resulting in the better preparation of the pupil-teachers for their college training. They yield in truth a most hopeful form of material for development into highly skilled teachers. As to the final result of our system of training, as now developed in our English schools and training-colleges, I quote the opinion of those who recently gave evidence before a commission on secondary education (Teachers' Registration Bill, July,

1891). Mr. Storr, chief master of modern subjects in the Merchant Tailors' School, who is, furthermore, editor of the *Journal of Education*, London, and who has hitherto been a severe critic of our elementary school system, states "that he has had personal experience of the work of several certificated elementary teachers; that he had no hesitation in saying that they show greater ability to teach and a greater power of dealing with boys than the average secondary teacher; and that, should the elementary teachers continue to take (as many of them do) degrees at the London University, they will beat the lower ranks of secondary teachers out of the field." Mr. Storr further adds that nearly all the improvements in methods that have taken place in secondary schools, and especially the intuitive teaching from objects, the use of diagrams, etc., have come from these training-colleges, or from the training of elementary teachers.

In their draft report the commissioners state that, as regards teaching experience, some of the witnesses most highly qualified to give evidence in respect to its requirements laid great stress on the value of training, and that a large part of the efficiency of our elementary teachers is due to the training which they receive, first, as pupil-teachers, and afterward as students in training-colleges.

Education in England never presented a brighter outlook. Of the three conditions through which, according to Herbert Spencer, all forms of scientific inquiry must pass—viz.: (1) The unanimity of the ignorant; (2) the disagreement of the inquiring; and (3) the unanimity of the wise—we are, in our elementary school system, rapidly assuming the third. The scientific researches of Spencer, Bain, and Sully are placing within our reach a doctrine of educational truth which the enlightened teacher, set free from code restrictions, is setting himself with a will to understand and apply. We may not at once attain to the fullness of knowledge and the perfection of practice which our brethren in America are able to present. We read your books, we study your methods, we are delighted with the position which the question of education holds in your national life, and we are hoping to gain fresh inspiration from the privilege afforded of taking part in the present Educational Congress.

DISCUSSION.

MR. JOHN MILLAR, Deputy Minister of Education for Ontario, Canada: In the Province of Ontario the training of teachers is regarded as its most important educational problem. Every teacher, from the lowest in the kindergarten to the highest in a collegiate institute, must have professional training. No person receives a permanent certificate who does not possess attainments of a threefold nature: (1) Scholarship, (2) a theoretical and practical knowledge of pedagogical principles, and (3) success as a teacher under natural conditions.

The academic part of the teacher's training must be obtained before admission to a professional training institution is granted. The normal schools confine themselves exclusively to professional work. The students admitted must have passed the examina-

tions of the Education Department, the preparation for which usually required some four years' attendance at a high-school. They must have had at least a year's successful experience in a school of their own after receiving some elementary professional training in a county model school.

It should be remembered that no student can be admitted to a normal school without the approval of the superintendent or inspector who certifies to his ability and success as a teacher. As every inspector must hold the highest grade of certificate, and must have had at least five years' successful experience as a teacher before he can be appointed to his position, the normal schools are guarded against the admission of students who might fail as teachers. The departmental examinations already mentioned shut out those who have not had the necessary academic attainments. Practice schools under skillful teachers are attached to the normal schools, where the students observe the application of the principles of pedagogy, and subsequently assume, for certain hours each day, charge of the classes taught by the regular teachers. It is, however, assumed that many of the characteristics of a good teacher may and should be acquired before he is allowed to experiment on the pupils in the practice schools. Ability to prepare carefully the lesson to be taught, to make a logical arrangement of the subject matter to be taken up, to understand the salient points to be dealt with before the pupils, and to show accuracy of language, may be tested before the student enters upon the ordinary practice.

An examination, both written and practical, is held at the close of the term, and the successful students are awarded permanent certificates as teachers in elementary schools. It may be said that about a six years' course is required to obtain one of these certificates, of which the academic part in the high-school requires some four years, the professional training about one year, and the actual experience at least one year. The certificate granted is provincial in value and given under provincial instead of under local authority. The authorities of no city or county are given the power to hold the examinations, academic or professional, for awarding certificates.

In all high-schools, also, every teacher must hold qualifications professional as well as academic, and no university graduate, no matter how high his attainments, could on the strength of his degree hold a position as teacher. The teachers in high-schools receive their professional training in the provincial school of pedagogy. The course is somewhat similar to that of the normal schools, though of a higher character. Most of the students admitted have good university attainments, and many of them are B.A.'s of very high honor standing. A year's course is given which is partly theoretical and partly practical. As in the case of the teachers of elementary schools, no permanent certificate is awarded without actual experience and acknowledged success as certified by the high-school inspector. The principal of a high-school must be a graduate in arts of a university, and must have served as an assistant in a high-school for at least two years after finishing his course at the school of pedagogy.

The Province of Ontario, though much wedded to the main features of its system of training teachers, is striving earnestly to improve its methods for securing teachers of higher scholarship, deeper professional knowledge, and riper experience, which, after all, is the only true test of the successful teacher.

MR. HENRY A. WISE, Superintendent of Schools, Baltimore, Md.: In this country we all feel that our advancement in civilization and happiness depends in a great degree upon the efficiency of the public schools. The normal schools have done a great deal of good in forwarding and helping on the work of public education in America, and it would be unkind to take them to task for the defects that exist in our system; but as it seems to me they have the opportunity of doing more for the schools than they are doing, I take the liberty, therefore, of calling your attention to one very important point which up to this time has remained unmentioned in the discussion of this question.

Any one who will examine the course of study for pupils ranging from about six to fourteen pursued in some of the best European schools will find that the pupils in those schools in the same time accomplish a very much greater amount of work than those in the American schools do. This will strike any one as a matter for serious consideration. It becomes us as good citizens and schoolmen to remedy this matter in the speediest manner possible. Why is it that our schools are so far behind the schools of Europe? Is there a reason and a remedy? Our teachers are not trained either in academic branches or professionally so well as the European teachers, and consequently they are unable to do the same amount of work in the same time.

It seems to me the course of study pursued in our primary and grammar schools needs both retrenchment and extension. Much less time should be given to the study of arithmetic, grammar, and geography, and a more liberal course provided by the

teaching of elementary algebra and geometry, and a better course in science, history, and literature. The introduction of another language besides English would conduce greatly to the teaching of our own language, and would result, in the hands of a competent teacher, in a gain rather than a loss of time. Instruction in the elements of algebra and geometry would enable us to accomplish in an easy way, with a great saving of time, much of what our schools now try to do so illogically, and with so much difficulty and waste of time, in the instruction given in arithmetic. Threads of science, history, and literature, taught in the right way, could be extended through the course of eight years, in suitable proportions, so as to provide a better course in every respect, whether to prepare the pupil for the continuance of his work in the high-school and onwards, or for the ordinary purposes of life.

To enable the elementary schools to do this work we must have teachers qualified to do it, and it is my purpose in occupying a little of your time this morning to call your attention to these facts, and to suggest that the normal schools of the country can be of the greatest service in helping to correct this serious defect in our educational system. If the normal schools would receive no students except those holding the degree of "A. B." from a well-recognized college, and would require these to engage in professional training for two years, or for at least one year, would this not be of great help in remedying the defect I have mentioned? Normal schools should recognize the fact that our teachers very generally need a much more extended and thorough culture in the branches taught in a good college than they need a knowledge of the history and science of education.

DR. J. M. HARPER, Inspector of Superior Schools, Province of Quebec, Canada: David Stowe, of Scotland, was the founder of the training system. In the normal school which he established, at Dundas Vale, Glasgow, I received normal training. This institution has attained to high renown under the present management of Dr. Ross, as one of the best organized practicing schools in the world. The influence of Stowe found its way from Old Scotland to New Scotland, for it was one of his students, the Rev. Dr. Forrester, who established in Nova Scotia the first normal school in the maritime provinces of Canada, a school in which the speaker had held a position for a time in the practicing departments.

In connection with the difficulty of procuring a sufficient number of teachers when the course of training is prolonged and expensive, I may state that the process of training in the old country begins with an apprenticeship of three, four, or five years in a graded school and ends with two years in a normal school. After such a process the "pedagogic consciousness" has been so far developed in the man who has passed through the course, that there seems to be nothing for him except to become a teacher for life. The length of training is long, the remuneration is contemptibly small, and yet there seems to be no lack of candidates when a situation of a hundred pounds or so is advertised. The secret of the matter, no doubt, lies in the remuneration which the teacher receives from the moment he enters upon his novitiate. The normal school is a means to an end; its own condition or organization is not the end, and consequently as an institution it should not be judged by its own condition. The end of the normal school is the supplying of our schools with properly trained teachers, and if it fails to provide such teachers for *all* the schools in a state, a province, a city, or district, it fails in its function. No school system in reaching out toward the highest success will ever come near it, unless provision be made for the training of teachers for all grades of work. The optional system may boast of its finely equipped normal school and its programme of studies and exercises, but if it fails to meet the necessity for trained teachers for all our schools it is inadequate, it fails in its most important function.

MISS E. P. HUGHES, Principal of the Cambridge Training College for Teachers, England: The special aim of our training-college at Cambridge is to provide professional training for university graduates. They receive their general education elsewhere, and come to us merely for professional preparation.

One of the special characteristics of our college is that we have no practicing school of our own, but practice in fourteen schools in Cambridge. I do not believe at all in the ordinary practicing school, where the ideas of the principal of the training-school are carried out, and where the students do not come in contact with different ideas and natural and normal conditions. When a principle is propounded in the lecture-room it is desirable that the students should have to apply it under many and varied conditions. My own students teach in schools of all kinds—public as well as private; boys, girls, and mixed. The schools vary from a preparatory school for Eton and Rugby for the sons of university professors, etc., to a ragged school in the poor part of the town. I hold

it to be of the greatest importance that university graduate teachers should know much and sympathize much with all kinds of education. Our newest development in England, of elementary training-colleges, the day training-colleges in connection with our universities and university colleges, have no schools of their own, but practice in several schools already existing. I hold strongly that if the practice of the students is damaging a school it cannot be satisfactory for the students.

MR. JOHN HULL, President of the River Falls (Wisconsin) State Normal School, regretted the recent revival of the plea that practice-teaching is unnecessary in the preparation of normal school pupils for teaching, and that observation of class-work furnishes sufficient basis, on the practical side, for the graduation of pupils from schools. He was quite sure that best results are obtained when theory, reinforced by observation, is followed by practice under intelligent supervision.

FRANCIS COGSWELL, Superintendent of Schools, Cambridge, Mass., said : The training-school in Cambridge differs from the other grammar and primary schools in this, that all the classes are taught by inexperienced teachers. These teachers, however, are graduates both of a high-school and of a normal school, and their work is done under the immediate supervision of a master and three assistant teachers.

By the establishment of this school, persons who desire to teach, and who have made special preparation for the work, have an opportunity to gain experience under conditions favorable to their own success, and without prejudice to the interest of their pupils, their inexperience being offset by the large experience of the principal and his assistants.

By the rules of the school committee no person is eligible to the position of teacher in the schools of Cambridge who is not equally qualified with teachers who have completed the required time of service in the Cambridge training-school—that is, no person is eligible who has not had advantages equivalent to a high-school course, a normal school course, and a year's experience in teaching.

COL. F. W. PARKER, of the Cook County (Illinois) Normal School : Observation of work as a preparation for teaching is a delusion. Pupils should learn to teach by teaching.

IMPORTANT NECESSITIES IN PRESENT NORMAL SCHOOLS.

BY GEORGE A. WALTON, STATE AGENT OF THE BOARD OF EDUCATION
OF MASSACHUSETTS.

NEW ENGLAND, as is well known, led this country in establishing state normal schools. These schools have done a great work in improving the ways of teaching and in creating a public sentiment in favor of special training for teachers. At present, and for several years, only about thirty per cent. of all the school teachers of New England have been graduates of normal schools, while recently about twelve per cent. in addition have received some training in city training-schools. The remaining sixty per cent. have had no training to teach. It will thus appear that the great hindrance to educational progress is the presence in the schools of this large proportion of teachers without professional training.

Normal training has not gone fast enough to supply all the schools, and the training furnished has not gone far enough to thoroughly fit for teaching. Hitherto all the normal schools have been deficient in their practice departments. Every one of these schools must have an academic

department, in which the branches of study to be taught must be pursued in the normal school with reference to the best ways of teaching them. This is as necessary as is the teaching of pedagogy and the history of education.

To remedy the defect in the department of practice is now the aim of all our normal schools. It matters not how familiar the teacher may be with theories of teaching and with the things to be taught; he can become skillful alone by practice. If his skill is not gained under instruction, it must be by experience and at the expense of the child.

The nearest approach to a normal training-school that has come under my observation, so far as the practice side is concerned, is the normal training-school in New Britain, Conn. This school has an attendance of about three hundred normal students. These pursue a prescribed course of studies, continuing the pursuit till the course is completed, regardless of the time it requires. An adjunct to the normal school, in immediate connection with it, is a model school of five hundred pupils, embracing all grades of instruction below the college. The several classes of the model school are in charge of expert teachers; the whole is under the supervision of the principal of the normal school. All the instruction in the theory and practice of teaching is illustrated by the teaching of classes of the model school pupils in the presence of the normal school classes. Usually this teaching is done by the regular teacher of the class; sometimes the critic teacher or special teacher of methods teaches. In special instances the normal student experiments with a model class. She is a constant observer and an occasional helper in the model school.

The observations of the class exercises, conducted by the critic and other teachers, are made the occasion for study by the normal students, and of instruction by the teacher of methods. After completing the prescribed course of studies in the normal school, and giving evidence of a comprehension of the theory of teaching the several branches, the students are put to teaching, under careful supervision, and under conditions similar to what they will meet in their future teaching. For this purpose all the school children of a town are brought under one roof, and organized into a school, with the several grades from kindergartens through the high-school. The schools of South Manchester, one of the towns thus connected with the state normal school, have about nine hundred children, all taught in this way. In the distribution of the children no teacher has over twenty-five pupils. These she organizes into classes, teaching and managing them in her own way, subject to careful supervision. This is exercised by the normal principal, who visits every room twice each week, and by the two critic teachers, one the principal of the school, who are constantly present in the schoolrooms for counsel. Besides these there are four assistants and several special teachers, who act as supervisors in their several specialties. One school or class of the practice school is conducted

as a model school, by an expert. As a practical result of the working of the plan, I have seen in this practice school forty students of the normal school conducting the classes of their own organizing with entire success—as great as I should expect from any forty teachers in any town.

The illustration enforces the value of careful study of the subjects taught, of the principles of teaching, and of continued observation, all supplemented by independent practice, as a preparation for teaching. It only remains to say that we hope ere long to see all our normal school courses supplemented by practice in teaching in the city and town training-schools, and that the time is not distant when no teacher will receive a normal school diploma till he has shown by actual success in the schoolroom that he has the ability and fitness to teach. To a great extent city training-schools could be made to effectively supplement all normal schools with schools for practice.

GRADATION OF NORMAL AND TRAINING SCHOOLS.

BY THOMAS KIRKLAND, PRINCIPAL OF THE NORMAL SCHOOL,
TORONTO, ONTARIO.

Should we have a gradation of normal and training schools? If so, what?

It is now recognized by all enlightened nations that it is the duty of the state to establish and control public schools in which the youths of the country shall receive the instruction and training necessary to make them good citizens. To make good citizens we must have good schools. In order to have good schools we must have good teachers. To have good teachers, they must be trained for their important work; and experience has abundantly shown that unless the state undertakes this training, it will be inadequately done by others, if done at all. I do not mean to say that there have not been good teachers who have never gone through a training-school, but training they must have had before they became good teachers; and if they did not get it at a training-school, they must have obtained it at the sacrifice of their pupils. Hence it follows that the state must provide training institutions, both as to kind and quantity, suitable for the training of all its teachers, in order that no untrained teacher shall be permitted to take charge of any public school. The object of this paper is to briefly indicate how this may be done.

When training-schools were first established they combined academic work with professional training. This is the system still adopted in nearly all the normal schools in the United States and in the training institutions in Europe. It was the system practiced in the normal school in which I serve, for more than thirty years. It has produced some of our very best teachers. It has use and want in its favor, and is not, there-

fore, to be lightly set aside. In its support it is urged that it is impossible to get students with the required academic education on which to base professional training. In reply to this, it is justly pointed out that colleges, academies, and high-schools have so increased in number and efficiency that training-schools may now confine themselves to strictly professional work. But what constitutes professional work?

Some of our best educational authorities hold that academic instruction is a necessary branch of normal school work, and not something which, under changed circumstances, might be dispensed with. They consider that in teaching a subject in a training-school, due attention should be given to its rise and development as a factor in education; that an historical view of the subject should be given in regard to methods, as the best safeguard against a slavish copying of educational devices; that the educational value of the subject should receive attention, and that the subject should be considered in its coördinate relation to other subjects. Now when academic work is done according to the foregoing, it becomes really and truly professional work. And if schools of this type were sufficiently numerous to train all the teachers required by the state, no better system need be sought for. But in no country are they sufficiently numerous, nor are they ever likely to be so. The expense would be too great. Therefore, on this ground alone we must adopt institutions of another type.

The division of labor, which has accomplished such marvellous results in other departments of work, must be applied to training-schools. Colleges and high-schools must be left to do the academic part of the work required by the teacher, while the training-schools shall confer that knowledge which constitutes the science and art of education, and give that knowledge and training which especially belongs to the teacher, just as the science of medicine belongs to the physician, or the science of theology to the clergyman. And just as the doctor and clergyman first obtain the necessary learning and culture upon which they afterward build their professional training, so should the professional training of the teacher be taken *after*, and not in conjunction with, the acquisition of knowledge at a college or high-school.

From a theoretical point of view this system seems to have much to commend it. But when first introduced it will be found to possess serious disadvantages. Unless the teachers in the colleges and high-schools at which the future professional students receive their academic knowledge have been trained for their work, their methods, to say the least, will not be the best. These methods will be acquired by their students during the three or four years of attendance at the high-school, and cannot readily be got rid of during their short attendance at the normal school. This system of professional training-schools will only be successful when those who do the academic work have themselves been trained in the best methods of communicating knowledge.

Schools may be roughly classified into kindergarten, public, and high schools, each school doing its own special work and for which special training is needful. This division of schools necessarily requires a corresponding division of training institutions. Hence, in order that all the teachers in a state or province may receive the special training requisite to fit them for the work they may be called upon to do, and with the least possible expense to the state, the following training institutions will be found necessary and sufficient :

- (1) Schools for the training of kindergarten teachers.
- (2) County model schools for training third-class teachers.
- (3) Normal schools for training second-class teachers.
- (4) Schools of pedagogy for training first-class teachers, high-school masters, and county superintendents.
- (5) Chairs of pedagogy in our universities, mainly for investigating educational problems.

KINDERGARTENS.

Kindergarten teachers may be divided into assistants and directors. For training the former, local schools will be sufficient. Before a candidate is eligible for admission to a local school she should be at least seventeen years of age and should possess a good high-school education. After having served one year under a director and passed the prescribed examination, she may receive an assistant's certificate. For the training of directors, kindergartens should be established in connection with the state normal schools. At these normal kindergartens those who possess assistant's certificates receive another year's training, at the close of which, and after having passed the prescribed examination, they may receive a director's certificate which qualifies them for taking charge of any kindergarten and for training assistants. These normal kindergartens also enable the students in training at the normal schools to obtain some insight into kindergarten methods and management.

COUNTY MODEL SCHOOLS.

One or more of the best public schools in each county may be set apart for the purpose of training teachers who have obtained third-class non-professional certificates. The principal of such a school should be a man of wide educational experience, holding at least the highest grade of public school certificate, and should have no other duties except management during the model school term. The assistants should all hold normal school certificates. Since, in all probability, more than half the schools in each county will be under the control of the graduates of these model schools, it is of the utmost importance that the training should be given by teachers of exceptional skill and ability.

County model schools were established in the province of Ontario in 1887, and have been eminently successful. The session is fifteen weeks, but it will probably soon be lengthened. Similar schools were established in the State of New York in 1890. The session is sixteen weeks, but the attendance is not compulsory, as in Ontario. They have also been established in Manitoba.

The term of the teachers in training at these schools is taken up with lectures and discussions by the principal on—

(1) The more important pedagogical principles and their application to teaching, school organization and management, school laws and regulations, and the study of the lives and methods of a few of our great educational reformers.

(2) Hygiene and physical culture.

(2) Observation of the work done by the regular teachers.

(4) Practice lessons given to the classes in the model school.

(5) Criticism by those who have observed the teaching.

In Ontario the professional third-class certificate, given at the close of the term in these schools, is valid for only three years, and if the holder has not by that time obtained a second-class non-professional certificate, and in addition to this has received a certificate from the county inspector that he has taught successfully for at least one year, he is not eligible to enter a normal school, and may, therefore, be obliged to retire from the teaching profession; the object being to weed out the lazy and incompetent at as early a stage of their educational career as possible, and thus give them an opportunity to enter some other profession where they can do less mischief.

NORMAL SCHOOLS.

These schools are for the further training of teachers who hold third-class professional certificates, who in addition have obtained non-professional second-class certificates, and who also hold certificates from their county inspector that they have taught successfully for one year.

It is customary in Ontario for teachers to have taught two or three years before seeking for admission into a normal school. With the experience thus gained in their own schools, with their previous training at the county model school, and with the additional knowledge obtained at the high-school while preparing for their second-class non-professional certificates, the students in training at the normal schools are well prepared for the acquisition of pedagogical and professional knowledge. Their work at the normal school mainly consists in extending and supplementing the work of the county model school, together with the study of psychology, the science and art of education, and educational history. At the close of the session, and after an examination, both written and practical, the student may receive a second-class certificate, good for life.

SCHOOLS OF PEDAGOGY.

If training is considered necessary for public school teachers, much more is it necessary for those who occupy the higher positions in the teaching profession. Hence the necessity of schools for the training of normal and high-school masters, principals of county model schools, and school inspectors. It would be impossible to overrate the importance of these institutions when well conducted, as their influence will be felt in all the grades of schools.

Training-schools of this type are of comparatively recent origin. In 1880 one was established in France for the training of female teachers for the lower normal schools, and another in 1882 for the training of masters for the same class of schools. In 1892 the State Normal College at Albany was established for training university graduates. For several years a school of pedagogy has been in operation in Ontario for training graduates of the universities and teachers holding first-class certificates. The course is much the same as in the normal schools, but carried farther. University graduates, in addition to the other subjects, have to take methods in Latin and methods in either Greek or French and German. The highest positions in the teaching profession are open only to graduates of this school.

PEDAGOGICAL CHAIR IN A UNIVERSITY.

One of the great functions of a university is research ; and surely no subject stands in more need of research than education. Turn which way we may, we are met by unsolved educational problems. How very little is yet known of the laws which govern the mental growth of the child ! A university professor, with his abundant leisure, is in a position to do much toward the solution of these problems. In addition to research he might collect, collate, and interpret pedagogical data, and in general point out and direct the true method of pedagogical investigation. The work of the occupant of such a chair need not conflict with the work of any of our training institutions. The duties of the former end with knowing ; the duties of the latter end with doing. Each has its proper place. Both are necessary.

The foregoing, ladies and gentlemen, is a very brief outline, but as full as the time allowed for the paper would permit, of the gradation of training institutions required by a state or province to produce efficient teachers. I do not think that any of them can be dispensed with, nor do I see any need of additions to their number.

HISTORICAL DEVELOPMENT OF NORMAL AND TRAINING SCHOOLS IN FRANCE.

BY EUGENE MARTIN, DIRECTEUR DE L'ÉCOLE PRIMAIRE SUPÉRIEURE,
PARIS.

THE classification of the several grades of normal and training schools in France would require a much larger time than is allowed to me. As a part of an introduction to the general discussion, I'll give an explanation of the development of normal and training schools in France.

The idea of a normal school for the preparation of teachers first occurred to the eminent men of the French Revolution, Condorcet, and others. But their first attempt to establish it was a failure, in so much as they had to recognize that it was not possible for fifteen hundred teachers, gathered directly from the provinces, to profit by the lessons of the most learned scholars of the time. However, when, some twenty or thirty years later, the attempt was renewed on a different basis, it was successful, and the *École Normale Supérieure* was established for the training of professors in the secondary schools, *lycées*, and colleges. This school, commonly known as the *École de bureau d'Ulm*, still exists, and is considered in France as the first and best of its kind. It is from it that most of our distinguished writers have come for the last seventy years; it is there that M. Pasteur has his laboratory. Its aim is to prepare teachers for the secondary schools, and not only does it attain it, but it very often happens that, in a few years, the best students become professors in our French universities.

But the preparation of teachers for the primary school was not forgotten, and as far back as 1822 we find that the first primary normal school was established at Orleans. Another followed in 1823; the next, five years later; and in the years 1830-37 as many as sixty were created in different departments. From 1870 to 1879 very few were added to that number—only three or four—the Empire, for reasons of its own, advocating the substitution of a system of pupil teachers, which was never very successful, or accepting as teachers in public schools a large number of *Christian Brothers*, without any certificate.

New ideas came up with new institutions, and from 1870 to 1879 normal schools regained favor. Yet it is not until that year, 1879, that a rational course of training was insisted upon for every teacher, and that a thorough system of normal schools for every department was sketched out.

M. F. Buisson, the present Director of Primary Instruction in France, as well as M. Ferry, then Minister of Public Instruction, thought that the first step in that reform for the training of elementary teachers was to

educate normal school teachers, and accordingly a first attempt was made in 1880, when one hundred gentlemen, from all parts of France, were gathered at Sevres, near Paris. They were to be taught educational science in all its branches, so as to go and teach it themselves to the elementary teachers afterwards. They had the lessons of such men as M. Compayré, Bertrand, Tallifier, Paquier, and others, and of course the results were excellent.

In the next year, 1881, the *École Normale Supérieure d'enseignement primaire* was legally established at St. Cloud under the direction of M. Jacoulet, and it sends out every year twenty or thirty highly competent normal school teachers. It was thought advisable to have a literary and a scientific branch, but all students attend the same lectures on psychology and pedagogy. For particulars regarding the age and other conditions of admission I must refer you to official documents.

Two years later, as the principle of female teachers in all girls' schools and the majority of rural schools with boys and girls was admitted, it was found necessary to have as many primary normal schools for ladies as for gentlemen, and consequently it was indispensable to have an *École Normale Supérieure* for the training of ladies' primary normal schools. This was established at Fontenay-aux-Roses, near Paris, with the same eminent professors, and with the same excellent results. Meantime, not only had new normal schools for gentlemen been established in the few departments which had not yet one, but in many instances ladies' normal schools had been created as well. There were only seven of these best ones in 1870, sixteen in 1879, fourteen more, or thirty in all, in 1880. So, when the law of 1886 made it compulsory for every department to keep two primary normal schools, one for each sex, for the training of its teachers, it was in most instances but the correlation of accomplished facts.

In the year 1892 there were in France and Algeria eighty-seven normal schools for men, and eighty-five for women; in two or three instances only, the departments having been authorized to join another in the keeping a common normal school. The number of students in these normal schools was at the same time in round numbers seventy-five hundred, of which four thousand were gentlemen and thirty-five hundred ladies. The general expenses supported by the state and department were nine million francs, or nearly two million dollars. The age of admission is from sixteen to eighteen; the course of study lasts three years. When they go out of school, students are expected to pass the examination of *brevet supré*, or first-class certificate.

For programmes of entrance examination, as well as of others, I must refer you again to the official papers. I will only mention, that in all normal schools there is a course of psychology as applied to education; one foreign language is taught, English or German; also manual training for men and sewing for girls. From twenty to twenty-five hours a week are

devoted to the academic course of studies, two hours to the foreign language, and four hours to manual training. A practicing school is annexed to nearly every normal school, and it contains also a kindergarten department in ladies' schools. When I say that there is a practicing school in *nearly* every normal school, it must not be inferred that in *some* there is *no* practice at all ; but in some cases it has been thought advisable for male students to make use of some of the public schools in the town for that purpose. In fact, every normal school student has at least three weeks' practice in effectual teaching during every school year, or nine weeks on his three years' course. The way in which he or she gets this practice varies according to the schools and directors. In this way all French teachers in elementary schools must previously get a three years' course of normal training before they begin their work. The definite certificate or "*certificat d'aptitude pédagogique*" can only be delivered to them after two years of effective practice.

The training of competent teachers for ladies' secondary *lycées* and colleges has not been forgotten. In 1882, at the same time as the first *lycées* for young ladies were established in France, a secondary normal school for ladies was created in Sevres, near Paris, and every year twenty to thirty highly competent teachers are sent forth from there into all secondary schools for girls.

From 1860 to 1892 the normal school of *Cluny*, in the central part of France, prepared teachers for what we call *enseignement*, secondary special in *lycées* and colleges—that is, secondary education without either Latin or Greek. It was thought advisable to suppress it last year, as graduates from the universities largely supply the want.

It has been attempted, also, to have training or normal schools for the more special branches of the school curriculums, such as *manual training*, foreign languages, drawing, etc. In 1882, under the direction of M. Salicis, then a general inspector, a school was established in Paris for the special preparation of teachers of manual training in normal schools, but it lasted only two years, as this eminent gentleman died and nobody took his place. In 1891 the idea has been revived in a new way : twenty teachers have been sent to spend *one* year at the school of arts and trades, at Chalons ; they were called the *normal year* course, and twenty more went to succeed them in 1892. This system seems to work well, and promises to provide competent teachers for manual training in normal and high schools. A manual training school for kindergartners was also started in Paris, and called the Pape Carpentier school. It lived only two years, and, instead, there is now a kindergarten annexed to every normal school for ladies. There is as yet no state normal school for drawing, but in many French towns the free municipal academic schools, which are open to all, contain special courses toward this special preparation, and the need is not felt of anything better for the present.

As to the teachers for foreign languages, it is very rightly thought that of all necessity they were to spend two years abroad, and for the last *ten years* the French Government has sent from three to ten gentlemen and ladies either to England or to Germany yearly, in order that they may not only learn the language, but teach it also; none is sent who is not first provided with the special certificate required of the teacher in a normal school.

It may, perhaps, be well to add as a complement to this short account of the French system of training teachers, that in no case is a certificate delivered to any teacher, at any grade, because of his going through a course of training only; but every student must, at the end of his normal school time, pass an examination held by a jury, the members of which are *entirely* strangers to the school. Open to criticism as it may be, this is the adopted course for the examination of teachers.

NORMAL SCHOOLS IN THE STATE OF NEW YORK.

BY FRANCIS J. CHENEY, PRINCIPAL OF THE STATE NORMAL SCHOOL
AT CORTLAND, N. Y.

THE first State normal school in New York was organized in 1844, at Albany, with twenty-nine pupils and an appropriation by the State of \$9,600. Since then the number has increased to eleven, with the twelfth one almost in sight, with eight thousand pupils and an aggregate appropriation of nearly \$300,000 for maintenance alone. The value of normal school property in the State is \$2,000,000. Nearly \$60,000 was expended for teachers' training classes, and \$50,000 for teachers' institutes.

Until quite recently the high schools and academies of the State have severely criticised the normal schools because they have done so much academic work, instead of adhering to strictly professional work. But the latter have maintained that this work had to be done by them as long as pupils were permitted, by the regulations of the Department of Public Instruction, to enter these schools without having had this necessary instruction elsewhere; and many connected with normal schools have maintained that this work could be better done by them than by the academies. But the advancement in the quality of work done in high schools and academies, as well as a higher appreciation of that work, has led the normal schools to encourage pupils to remain in the former until they receive their diplomas from the same, and to give credit for the work done.

The gradation of the work of the professional training of teachers requires that the elementary part shall be *Teachers' Training Classes*.

These classes are connected with the academies and higher schools which are now permitted to do a certain amount of professional work and to receive compensation therefor from the State. The superintendent of public instruction selects from the nearly four hundred union schools and academies of the State those that afford the most ample facilities and present the best record in the grade and character of their work, to instruct what are known as "training classes." Some regard is also had to locality. The special aim of these classes is to prepare teachers for the ungraded country schools. In 1891-92 one hundred and fifty-nine of these classes were organized with an attendance of 2,530 pupils. The class in any school must be organized with not less than ten members, and not more than twenty-five. The period of instruction consists of two terms of sixteen weeks each. Definite qualifications are required for entering, and an examination is given at the end of each term, which all members of the class must enter.

School commissioners are required by law to visit the classes and to advise and assist in their organization and management. Two special officers known as inspectors of training classes are appointed by the superintendent of public instruction to visit the classes one or more times each term, notice carefully the material of which the class is composed, the quality of the work done, and give such advice and criticism as in his judgment may be necessary. The inspectors make immediate report to the superintendent after each visit. The class in each institution is instructed in a definite course of study, separate from all other classes of the school, which, briefly outlined, is as follows: The mental powers and laws of mental growth; school law and school economy; reading and spelling; numbers; language; geography. Subject matter and methods are included in the instruction of these branches. Methods in form study and drawing and methods in physiology are also taught. It is required, also, that the class be given the opportunity to witness and engage in practical work in other departments of the school where instruction is being given by experienced teachers. The training class itself is also made a practice class, in charge of one of its members. The department demands that great care be taken by Boards of Education in the selection of the teachers who shall have charge of these classes.

Superintendent Crooker says, in his recent report to the legislature, "Already good teachers are going out from these classes, well grounded in a knowledge of the methods and principles of teaching as a result of conscientious and effective instruction, and the outlook for still further benefits is very encouraging."

TEACHERS' INSTITUTES.

Closely allied to the work of the training classes is that of the teachers' institutes. These have been organized for nearly fifty years. One insti-

tute is held each year in every school commissioner's district of the State. The schools within the district must be closed during the week, and the attendance on the part of the teachers is compulsory (cities having a population of five thousand or over excepted), but they are entitled to regular wages for the time they are in attendance. These institutes are under the direct supervision of conductors appointed by the State superintendent of instruction. They are employed at an annual salary, and give their whole time to the work. The purpose of the institute is the instruction of common school teachers in the latest and best methods of teaching the common branches, including school government, school economy, laws of mental growth, methods, and discipline.

While the time allowed each institute is not sufficient to make that lasting impression desired by all efficient and successful teachers, yet the criticism upon its work is lessening year by year, and the benefits received by the progressive teachers in attendance are more and more acknowledged. If the length of time during which these institutes are in session could be increased and the instruction better graded, it is easy to see that these organizations might be numbered among the most efficient means of normal instruction, reaching a larger constituency than any other.

NORMAL SCHOOLS.

As has before been stated, normal schools have from the beginning of their organization gradually grown in favor and influence, until to-day they command the hearty support of all friends of education. Besides the New York State Normal College there are ten of these schools situated in different localities of the State, with provision already made by the legislation for the establishment of the eleventh.

While the purpose of their organization was originally to provide well-trained teachers for all the public schools of the State, their graduates are generally found in the graded city and village schools. The courses of instruction are longer, more thorough and exacting than that of the teachers' training class. To enter these schools a pupil must be at least sixteen years of age, and receive an appointment by the State superintendent upon the recommendation of his (the pupil's) school commissioner or city superintendent as to his health, scholarship, mental ability, and moral character. If he holds a college, academic, or union school diploma, a State certificate, or a certificate granted under the uniform examination, and still in force, showing a standing of seventy-five per cent. in geography, grammar, and arithmetic, each, he is admitted without examination; otherwise he is examined in the three branches named. In any case he must be able to "read readily and intelligently, spell correctly, and write legibly and neatly."

After entering he has a choice of one of three courses of study: An

English course of three years ; a classical course of four years ; and a scientific course which embraces all the subjects of the English course and a two years' course in any two of the following languages : Latin, Greek, French, and German. After admission, the principal gives such credit to college or academic diplomas, to State certificates or regents' pass-cards, as he thinks proper in determining whether the student shall be advanced in standing. No student is allowed to graduate upon less than one year's attendance. At least as much time as this must be given to the study of the history and philosophy of education, methods of teaching, psychology, and actual practice in the school of practice connected with each one of these schools. The schools of practice consist of all grades up to, and insome instances including, academic grades. In these schools, under the supervision of critics especially appointed, advanced pupils are required to apply the principles and methods of teaching already learned in the normal department. Classes are assigned to the pupil-teacher, for which he is responsible for a certain length of time. He receives such suggestions and criticism, either in a general way or alone, as, in the judgment of the critic, should be given.

The actual test of the student's immediate or prospective ability to teach is made here. If, after proper trial, it is found that a student gives little or no evidence of becoming such a teacher as should receive a permanent license, he is advised to seek employment in some other field of activity.

Connected with some of these schools—notably Albany, Fredonia, and Oswego—are kindergartens.

NEW YORK STATE NORMAL COLLEGE.

In March, 1890, the Albany Normal School was reorganized on an entirely new plan, under the title of "New York State Normal College." It is under the joint jurisdiction of the Superintendent of Public Instruction and the Regents of the University of the State of New York. It gives no instruction in subject matter of the ordinary branches, but confines itself to purely professional work. Its requirements for admission are higher than those of the other normal schools. It has a two years' English course, after the completion of which the student is given a diploma simply. It also has a two years' classical course, which, when completed, entitles the student to the degree of the Bachelor of Pedagogy. "The courses of study include the philosophy and history of education, systems of education, school economy, methods of teaching the branches included in the courses, and such other subjects as are related immediately to the professional work of the teacher."

A model school, consisting of four departments—viz., kindergarten, primary, grammar, and high school—is organized and maintained for the purpose of giving students the "opportunity for observing the successful

application of the methods of teaching and . . . to display their knowledge of the subjects taught, and their skill in teaching and managing pupils."

The purpose of the college is to prepare teachers and principals and superintendents for the more advanced schools of the State.

CHAIRS OF PEDAGOGY.

These have been established in some of the colleges of the State like Cornell and Syracuse Universities, where students who wish to pursue professional studies along the line of teaching have the advantages of the increased facilities of the library and laboratory of the university. It should also be noticed that many of the larger cities maintain teachers' classes for the purpose of training teachers for their own schools, as the New York Normal College.

PRIMARY INSTRUCTION.

It is a question in the minds of some of our most thoughtful educators whether it would not be well to have one or more of our normal schools devoted to the special work of training primary teachers. The importance of primary instruction, and, therefore, the necessity of well-trained primary teachers are more and more unquestioned. The work is great enough to command the entire time and energy of any school, and such a work, if properly done, would be felt throughout all the schools. With us in New York this grade of instruction has received as little attention as any. The importance of primary work is gradually forcing itself on school authorities, and it is coming to pass that better work is being required and better compensation given.

A SOCIOLOGICAL, IDEAL VIEW OF NORMAL SCHOOLS.

BY DANIEL FULCOMER, PRESIDENT OF MICHIGAN COLLEGE, GRAND RAPIDS, MICH.

THE point of view in this paper will not be that of the normal school man simply, but of the explorer of education in general and of the whole field of social science. It will be largely ideal in its conclusions, and it is to be desired that a strict and sharp line be drawn in the minds of my hearers between what is given as a pure ideal of the distant future—one hundred years hence if you please—on the one hand, and the practical and immediate slight reforms which I shall propose in the latter part of my paper.

I am not altogether an idealist on this subject, for practical experience as president of a so-called "normal university" has brought me into con-

tact with the same difficulties and demands that you have met. But in all the branches of social activity we must have ideals. Had there been no ideal character in the minds of men this past eighteen hundred years, how much further short of that ideal should we have been to-day than we are! Though neither we nor our descendants may ever reach a perfect system of education, we shall come much nearer to it if we have its proportions clearly before us, and strive year by year to bring the present more nearly into harmony with it.

My topic of the true studies of a normal school course is the same as that of the true nature of normal schools. What part should they hold in a perfect system of education? This is to be determined by the sociologist rather than the psychologist. The definition of education itself may be improved upon in the same hands.

THE PLACE OF EDUCATION IN THE SOCIAL ORGANISM.

Education in its widest sense is the voluntary modification of the individual. Its purpose is two-fold: the perfection of the individual and the perfection of the social organism. A balance must be kept between these two. Education, in the thought of our great American sociologist, Ward, is the ultimate means of realizing all social aims. Schools as at present constituted do but a part of the work of education, the church, the family, and the shop taking their respective shares; but the tendency of the school is to enlarge its field, as in the kindergarten and in moral and industrial education.

Wherever the educational system belongs in Spencer's classification of the sustaining, the distributing, and the regulating systems of the social organism, it is a complete system in itself, and is made up of a group of organs, each of which should have its own work to perform. The office of this system in its entirety, including the education of the home and of the church, is to take the unformed atoms of the body politic, individuals, at their birth, and select and fit them for the places in the organism which they should occupy. Their training begins in the cradle and ends only at the grave. In this vast and important system, both general and professional schools have their separate functions: the first in transforming all the atoms alike from dead into living and intelligent units of society, in giving a general preparation for citizenship; the second in providing a special, technical, professional preparation for their life-work. The ideal society is a society of specialists. Of the specialists the teachers are one group—the most important in the view of Ward. Their education must be gotten in professional schools—post-graduate, as we call them now.

THE PLACE OF NORMAL SCHOOLS AS PROFESSIONAL SCHOOLS.

Normal schools are those which complete the preparation of teachers for their work in the social organism. They finish the preparation already

begun by the home, the common school, and other social influences. With this as their ideal, they would become so different from the normal schools of the present that I wish to drop the name in this part of my discussion and call them schools of pedagogy. They are to stand equal in rank with schools of theology and schools of law; to be professional schools only, with no academic instruction. Otherwise we would have the inconsistency which we never find in the physiological organism, of two organs or two systems attempting to do the same work. Now, indeed, our school system has four or more organs providing the same academic instruction: the normal schools, the high-schools and the grammar schools, the academies and seminaries, and the preparatory departments of colleges, besides private and other agencies. In this we have a gross violation of the great modern principle of a division of labor; large, useless expenditures for the duplication of teachers, buildings, and supplies for the same work, with a consequent depreciation in the quality of the work.

COMPARED WITH OTHER PROFESSIONAL SCHOOLS.

Of the professional schools, the school of pedagogy is more important than the school of medicine or the school of law, just as its subject matter, the mind or soul of the individual, is more important than that with which the doctor or the lawyer deals, his body and his property. And it is more difficult, not only because mind is a more difficult study than matter, but because in addition to the teacher's knowledge of his material, the individual upon whom he works, he must also have a scientific knowledge of other fields. As a kindergarten, elementary, or country school teacher, there is no limit to the knowledge he should have on nearly all subjects, so that his scholars may not need to unlearn when they come to the college or university what was taught them falsely in the lower school. As a teacher of the high-school, normal school, college, or university, he needs to be a department teacher, a specialist not only in pedagogy but in some other science. When he has taken post-graduate courses in his subject, and has the enthusiasm and grasp of a specialist, he should confine his teaching to his specialty, and perhaps advance in it through the high-school and college.

SHOULD THEY FORM UNIVERSITY DEPARTMENTS?

In the first discussion of the morning we heard of separate professional schools for the training of separate classes of teachers. I am aware that we shall find throughout the evolution of the social organism the constant transformation of the homogeneous into the heterogeneous; and I should carry this differentiation still further, to include the department teaching of the high-school, the teaching of the blind and of the deaf, the teaching in reformatory institutions and in Sunday-schools. Yet these are but parts of one great school of pedagogy, having many of their studies in

common, and dividing up into special groups in the latter part of the course. It is only a question of practicability whether they should be in one school, as specialists in medicine all attend the same medical school, or whether they should be separated. In an ideal state I venture to say that they should all be in a university, the school of pedagogy forming a post-graduate department of it. There is more reason for teachers to be educated at a university than for lawyers, ministers, or doctors; for, as I have already said, they should be specialists in some purely scientific study as well as in the studies peculiar to their department, and, as any one who is acquainted with post-graduate work knows, it is impossible to provide the facilities necessary for specialties except in universities. Indeed, no one university existing has the means to provide the best work in all departments, and a "migration of students" between universities would be necessary.

If our reasoning be correct, it would appear that thus far our system for the training of teachers has been largely wrong, and that a State like Ohio, which has established no normal school but has a university department of pedagogy, is more favorably situated for realizing the ideal of the future. It may be held, however, with good reason, that one institution could not take care of the several thousand teachers to be sent out annually in each State, although this number will be greatly diminished when teaching becomes a life profession instead of an occupation of four or five years. Yet I may admit that the last stage before the realization of our ideal may be the transformation of one or two State normal schools in each State into post-graduate schools of pedagogy, to be open, however, only to teachers of the elementary and rural schools and kindergartens, since all teachers of the higher schools must take post-graduate studies at the universities.

THE EVOLUTION OF THE SCHOOL OF PEDAGOGY.

The history of normal schools shows an evolution toward the university school of pedagogy. They were started in all countries for elementary teachers only. In America, and in Massachusetts, where there was no state university, nothing would be more natural to the minds of Horace Mann and practical legislators in his time. But for many years there have been university chairs of pedagogy in the principal European countries. It is twenty years since the first chair of pedagogy was established in the United States, and we now have many such departments.

More than that, we have one school of pedagogy, the New York College for the Training of Teachers, which is on as high a plane as most of our medical and law schools. It stands among the first of the world's pioneer schools of pedagogy. There is another at Vienna, the *Pedagogium*, and two near Paris. Lately started with similar plans are the State Normal College at Albany, the Toronto School of Pedagogy, and the Winnipeg

school ; while our State normal school at Milwaukee, near by, is struggling bravely in the same direction, requiring at least in theory a high-school education before entrance. The neighboring provinces in Canada, Ontario and Manitoba, give nothing but professional studies in their normal schools. The common branches are reviewed for methods only.

Already the university departments of pedagogy, as at Clark and Michigan Universities, and in German and Scotch universities, command the highest talent, but of none of them can we say that they are complete professional schools, although the combination which we find in Scotland is nearly so, where all the male training-colleges with their practice or model schools are in university towns, and send their best students to university courses. The university of Aberdeen has proposed to the government to take the entire training of teachers upon itself.

CONCLUSION—PROFESSIONAL STUDIES ONLY.

My answer to the question set us for discussion, as reached through the study of social science and history as well as pedagogy, is that the course of study in ideal normal schools—that is, in the post-graduate schools of pedagogy of the future—should be wholly professional, that it should not include elementary nor even college branches. But as many of the old discussions on this subject have been caused by different interpretations of the word professional, I shall name the chief branches which I wish to include under the term. In short, they are the studies which properly belong to no other school except a school of pedagogy.

ENTRANCE REQUIREMENTS.

The entrance requirements to such a course should be a liberal college education, although perhaps the ideal college of the future, uniting itself with the best features of the high-school, will be one year shorter than at present and will require more studies in preparation for citizenship. Of this course, the studies most important to a teacher after the common school are, (1) psychology ; (2) physiology ; (3) social science ; (4) moral science ; (5) logic ; (6) at least one modern language, and the elements of religion, philosophy, and anthropology.

THE PROFESSIONAL COURSE.

The methods used in the professional school will have all the exactness of the historical, comparative, statistical, and experimental methods used in other post-graduate research. The seminary, the library, and the laboratory will form prominent features. Among the studies will be, no doubt, some which are as yet unnamed. One, if not in the preceding college course, may be John Stuart Mill's proposed science of ethology, or of character-formation. Growing out of this will come—

(1) A new science of education, treating of all the influences which

modify man from the cradle to the grave. Based on this and on other studies, as psychology and social science, will be—

(2) The philosophy and theory of education.

(3) The history of education and comparative education. This will not be a history of schools only, but of the leading influences which have acted upon and modified mankind.

(4) Child psychology.

(5) Didactics, methodology in general, embracing the principles of training and education values, and followed by the methods of separate studies. Here will be necessary a review, for this purpose only, of the branches to be taught by each teacher.

(6) School administration and economy, including school law and school hygiene.

(7) Model and practice schools, and perhaps a *Probejahr*.

In addition to the above general course for teachers there will be elective courses, such as were suggested in the discussion this morning, which will run through one or two years and relate entirely to the specialty of the teacher, as in kindergarten work, a high-school department, or a principalship; but other elective, post-graduate courses in some science or art would be taken in the university proper along with the work in pedagogy required of all teachers above the grammar school, so that they may be made fit representatives in learning of what they propose to teach, whether it be chemistry, drawing, or wood-work.

FROM THE IDEAL TO THE PRACTICAL.

I have not time left to speak of the present. It is a long and hard story, and has been narrated in wholesome terms before this association more than once. I will admit that we must offer academic studies, all of them if you please, or we cannot get the students; and without the students both the normal school finances and the public school will suffer. Professor Gordy says: "No one can read President Gray's account of what a normal school should be, without being struck by the almost *pathetic contrast* between his ideal normal school and the reality forced upon him by circumstances."

But the light is breaking. Let us turn our faces toward it. Three things we can hope to accomplish within a few years.

FIRST STEPS OF THE REFORM.

(1) We can educate public opinion and the local school boards until with their consent our State legislatures adopt the standard already set by some normal schools; that is, to require a high-school education for entrance. We can, perhaps, along with this hasten the increase in teachers'

salaries, improve their tenure of office, and lengthen the normal course to a creditable degree course.

(2) We can at once offer in all normal schools a post-graduate professional course, side by side with the other courses, and perhaps attract to us the college men of broad education who should stand among the representatives of American scholarship.

(3) We may later compel, through the legislatures, all normal schools to adopt the standards of the State institutions.

If I have described with any degree of probability the ideal of the future, let us bravely work in its direction, and not think to dam the mighty current of the evolution of the schools with flimsy barriers of our own. They will surely in the end be swept away, and ourselves with them. Let us place ourselves in the line of truth and of advancement, with the satisfaction that the future, if not the present, will vindicate our course.

SHOULD THE COURSE OF STUDY IN NORMAL SCHOOLS BE WHOLLY PROFESSIONAL?

BY FRANCIS B. PALMER, PRINCIPAL OF THE STATE NORMAL SCHOOL,
FREDONIA, N. Y.

THE subject for discussion is stated as follows :

"Should the course of study in normal schools be wholly professional, or should it include work in the elementary and secondary branches, even where preparation is required as a condition for admission? If so, to what extent?"

If the question were whether subject matter should be taught in normal schools to those thoroughly proficient in it, everybody's common sense would prompt the answer, No. But why was the question framed so as to name requirements rather than preparation? I can see no other reason than the fact that requirements and preparation are practically quite different; and this gives an opportunity for difference of opinion and for debate. Those who think that requirements and preparation can be practically made the same, would oppose teaching subject matter, while those who think it impossible to secure a sufficient preparation on the part of a large number of those who might make good teachers would include it in the work of the normal schools rather than have another class of schools created under the same name.

It is not denied that some specially bright pupils will gain such a thorough knowledge of the subjects they study in the public schools that they are ready for method work, but a large proportion of those who offer themselves to the normal schools are not of this class. I believe these four propositions are fundamentally valid :

(1) The average teacher of a class should be more thoroughly instructed in the subject he teaches than the average pupils in the class.

(2) We must look to the average pupils of a class for teachers of succeeding classes.

(3) There must, consequently, be supplementary study of the subject matter somewhere, or the work of the class will degenerate.

(4) This supplementary work is done in preparation for teaching. It is not such as the average pupils of our schools want, but it should be provided especially for

those designing to teach. It is properly in the line of professional preparation, and therefore legitimate work for the normal schools.

After a careful discussion of this subject by the Regents' department and the normal school principals of New York State some years ago, it was concluded by the Regents' representative that it would be impossible to require for ordinary graduation sufficiently thorough work even in arithmetic and grammar to justify excusing the Regents' graduates who designed to teach from further work in those subjects. The argument was that pupils would be driven from their classes and leave school without graduating, if such thoroughness was required in these subjects of those who did not design to teach, and that only those preparing to teach would take a course. It was proposed to organize classes especially for this advanced work, and this suggestion is to some extent adopted. It is only a question of the most profitable way of securing the end sought. Among the advantages of having such work done in normal schools are the following :

(1) It is more certain to be thorough than if left to schools that have a different purpose. I doubt if there is a normal school that does not feel it would be surer of the scholarship of its pupils if it gave instruction to its pupils in all the branches to be taught than under any other feasible plan.

(2) The results would be better adapted to the work that is to follow, and there would be an economy of time and a better adjustment of the different parts of the work. My own observation has led me to believe that a student who has done the regular work of the public schools requires nearly or quite twice as long to do the supplementary work at home as in a normal school, if it is done thoroughly.

(3) There is growth of the professional spirit as the time of associating with others having similar purposes is lengthened.

(4) Everything is studied with special reference to teaching it again, and the subject matter is more thoroughly mastered and the knowledge gained is fitted into its place as a part of the teacher's outfit.

The only lesson I remember to have learned in college from any visitor was given in a chapel talk. The speaker wanted to impress on our minds the importance of so learning things as to be able to impart our information to others as the surest way of making it available for ourselves. As an illustration, he said he was with a friend in Philadelphia who wanted him to direct him to a place he had recently visited. The speaker said he undertook the office of guide confidently, but when they had gone but a little way he was uncertain which of two streets to take. This settled, they soon met with another perplexity of a similar kind. As they went on, perplexities accumulated until the would-be guide gave up the task, and explained that when he went the way before he was with a friend perfectly familiar with it, and everything seemed easy and plain, and he did not consider that he might want to take the same trip alone, or show the way to another.

We all know how easy it is to stop with the sense of an ability to understand what others say, and that this is very different from being able to give precise and accurate information to others. As one of our students on examination put it, education does not consist of being able to be told something. If this is so in respect to people in general, it is especially so of one who intends to be a teacher.

In the normal school pupils are constantly tested as to their ability to teach what they learn, and they form the habit of learning with this end constantly before them.

When it is asked if subject matter should be taught in normal schools, I answer: Why not? The study is a necessity. It can be better done there than elsewhere, and it is in the line of professional preparation.

HOW NORMAL SCHOOL WORK DIFFERS FROM THE WORK IN SECONDARY AND IN HIGHER EDUCATION.

BY DR. MALCOM MACVICAR, SUPERINTENDENT FREEDMAN'S SCHOOL OF
THE BAPTISTS' HOME MISSIONARY SOCIETY, BROOKLYN, N. Y.

TRUE normal school work should be special in its nature. The ultimate end to be secured should be the development of such possibilities of the pupil's being as have special value to a true educator, and the equipping or furnishing of the pupil in such a manner as will enable him to perform effectively every line of work pertaining to teaching and school organization and management. The work in secondary and higher education, on the other hand, is general in its nature. The ultimate end, in this case, is the symmetrical development of all of the legitimate possibilities of the pupil's being, and, in the course of doing this, the equipping or furnishing of the pupil in such a manner as will enable him to use these possibilities effectively in his life-work.

Again, true normal school work should differ from the work in secondary and in higher education, not in the way in which the work is performed, but in the special ends to be accomplished. In secondary education, for example, those special ends are chiefly, (a) the development of the moral and reasoning powers; (b) the acquisition of right habits of performing mental work; and (c) the acquisition of such knowledge as will prepare the pupil thoroughly for independent effort in his life-work, or in pursuing an advanced or collegiate course of study. On the other hand, in normal school work the special ends to be realized are chiefly the following: (a) The acquisition of a definite knowledge of the natural laws of physical and mental development; (b) the acquisition of a practical knowledge of the conditions or means through the use of which these natural laws of development operate; and (c) the acquisition of such special power or personal qualities and habits as are essential to doing effective work in teaching and managing.

As implied in what has already been said, normal school work should be of such a nature as to accomplish, in the best way, three special ends. The first is to give to the normal pupil a clear and definite knowledge of the natural laws of physical and mental development.

To this end the normal course must provide the right conditions or means for careful physiological and psychological study. The best writers on these subjects must be carefully consulted. Running parallel with this, the pupil should be required to make a careful study of the laws of physical and mental development as manifested in living specimens, in the infant, the child, the youth, and the man. This latter work should be conducted in such a manner as to afford the right opportunity for the careful study of these specimens under the various changes and conditions through which they pass in the process of development. This must, therefore, include the study of home as well as of school life.

Again, running parallel with the studies just suggested there should be a course under the head of self-study, based upon a careful retrospective analysis of the mental processes by which results were reached by the pupil, in the subjects completed in the primary and secondary schools. This work should be performed in connection with a careful review of representative subjects, selected from the primary and secondary course. The principal object, however, of such a review should be to cause the pupil to revive vividly and to study with great care the mental processes through which he passed in gaining a knowledge of such subjects. Too much stress cannot be placed upon this kind of work in the training of teachers. Indeed, the readiness and clearness with which a pupil can retrace his own mental processes and struggles in master-

ing each subject of study is to a very large extent the measure of his ability to succeed as a teacher.

The second special end to be accomplished in normal school work is to give to the normal pupil a practical knowledge of the conditions or means through which the natural laws of physical and mental development become operative.

Under this head, in the normal course, should come the discussion of what, for lack of a better term, are usually called "*methods*." Perhaps here it should be noted that by method in teaching is simply meant *the way in which the pupil should be conditioned in order that he may accomplish his work in the most effective manner*.

The training by which this second end can be best accomplished requires two lines of work running parallel with each other, each illustrating and enforcing the other. The first of these should consist of a definite course of class discussions in the study of methods, and the second, a course of careful observation on actual work performed in accordance with the views considered in these class discussions.

In the class-work, special attention should be given to the careful study of the best writers upon methods of teaching. This, however, to be made effective must be accompanied by definite oral instruction, in which every method presented is actually applied in teaching a subject before the class. This illustrative teaching should not, at this stage, be required of members of the class under training. It should invariably be performed by the teacher charged with the instruction in methods.

The course in observation, as already stated, should run parallel with the discussion of methods in class. Observation, however, should be confined to work done by experienced teachers. The plan too commonly followed, of confining observation largely to work done by pupils who are themselves still under training, is, to say the least, very unwise. At this stage of advancement, what the pupil needs in order to acquire a correct ideal of teaching is to observe real model work, work which places the methods discussed before him in their proper light. At a later stage, however, in the course, when the pupil has acquired a right ideal, and can judge correctly of what is observed, observation should then be extended to the work done by pupil-teachers.

The points to which special attention should be given in the observation course should be substantially the following :

- (a) The methods pursued by each teacher in creating interest, or placing the minds of the pupils in class in the right condition to receive and digest the matter presented.
- (b) The special devices and illustrations used in making plain difficult points.
- (c) The tact of each teacher in adapting instruction to the peculiarities of individual pupils.
- (d) The methods pursued in fixing permanently in the minds of the pupils the instruction imparted.
- (e) The methods adopted and the tact shown by each teacher in the management or government of classes.

The results of the observations conducted by each pupil upon these points should be carefully recorded and made the subject of comparison and discussion in the class in methods.

The third special end to be accomplished in normal school work is to develop in the normal pupil such special powers or qualities and habits of work as will enable him to teach and manage effectively.

To accomplish successfully this third end is the crowning work of normal training. To acquire the knowledge proposed in the work already outlined is very important. It must not, however, be overlooked that this may be done, and still the pupil, after gaining possession of this knowledge, may prove a failure as a practical and effective teacher. It is not what a man may know, but what he is in consequence of the effort put forth in embodying his knowledge in acts, that makes him an effective workman in

his chosen vocation. This principle applies with peculiar force in the training of teachers. The normal pupil acquires the power to teach and manage successfully in the effort he puts forth to convert his knowledge of the laws of physical and mental development and of methods of teaching into acts. Hence the work done in a well-organized practice department is the most important and essential feature of rightly conducted normal training.

I present the following as a summary of the course that should be pursued in conducting the work of the practice department:

(a) Provision in the practice department to have one class in each grade of primary and grammar-school work instructed permanently by experienced teachers, whose work will present an accurate model of the application of right principles of teaching. These classes should be the only ones used, at first, in the work of the observation course.

(b) Every feature of the practice work of the pupil teachers should be under the constant supervision and friendly yet exacting criticism of experienced teachers.

(c) Pupil-teachers should be placed in full charge of the classes they instruct for not less than from five to ten weeks, and during that time they should be held responsible for the management and work of these classes in the same sense as if they were in charge of a school of their own.

(d) Each pupil-teacher should be required to give instruction, for the time named in (c), in at least one representative subject of each kind of work he is preparing to teach.

(e) Pupil-teachers should be required to execute, under the guidance of the supervising teachers, every detail of organizing and managing the practice school.

(f) The supervising teachers, during the progress of the practice work, should conduct regularly class exercises, in which hints, suggestions, and corrections of a general nature should be freely given to the pupil-teachers. The chief object of these exercises should be to point out the application of right principles of teaching, in correcting defects noticed in the practice work. In this exercise all personalities should be avoided, but the greatest freedom should be allowed the pupils in asking and answering questions, in making suggestions, and pointing out excellences and defects.

DISCUSSION.

DR. J. M. HARPER, Inspector of Superior Schools, Province of Quebec, Canada : The discussion as to the function of the normal school has brought out in clear outline the ideal normal school, which is neither more nor less than the institution which shall provide trained teachers for all the schools in any given district. What we have heard of the work done by the normal school in the various sections of the world represented in this congress shows how inadequate they are in face of the desire to realize this ideal. The preparation of a limited number of teachers to be sprinkled over a wide district is about all that has been reached in what our chairman has called "the younger sister republic," and this is about all that has been attained in a province so well organized educationally as Ontario is. No teacher is employed in Ontario who has not had some professional training, and the same may be said of many of the States ; but this is falling short of realizing the professional ideal of which we have had so many pleasant glimpses this morning.

David Stowe, of whom mention was made yesterday, could hardly have foreseen the time when in Scotland the training-school of which he was the founder would place at the disposal of every parish a trained teacher, and yet it is interesting to learn that in a direct line through the influence of David Stowe the ideal which we have been discussing has actually been realized. Yesterday I referred to the influence of Old Scotia on Nova Scotia through one of Stowe's pupils, the Rev. Dr. Forrester. He it was who founded the first normal school down by the Canadian provinces near the sea, and in his mind, when he organized that institution, there was no doubt the intention to supply

all the elementary schools and high-schools with trained teachers. Stowe did not live to see the ideal in Scotland, neither did Forrester live to realize his ideal ; but in the smallest of the provinces in the neighborhood of Nova Scotia there has been realized the full development of the training system, where no teacher can enter upon practical school-work without his normal school diploma. Every teacher in Prince Edward Island and in the sister province of New Brunswick is a trained teacher, and I need hardly say that the experiment has been so far successful that we may hope to see such a state of affairs in every district on this side of the Atlantic.

The multiplying of the stages of training the various grades of teachers has no doubt been successful in large communities, but the expense of having various training departments can never be realized in small communities. And as the consolidation of a school district must in the future be made round the district normal school as a civic educational nucleus, the organizing of the training-school that shall have the principles of the science of education which are common to elementary school-work as to the higher work, directed toward the realization of an improved practice, is the most important consideration in a discussion of this kind. Every district must eventually have its normal school, and, as in the provinces of which I have made mention, then we may expect to see every teacher in the land a trained teacher.

JAMES M. GREEN, PH.D., Principal State Normal School, Trenton, N. J.: The fundamental principle of pedagogy is the study of the child mind. Instead of separate normal schools for the preparation of kindergarten, primary, and secondary teachers, we should have normal schools where the study of mind in its various stages of development and the application of subject matter to these stages of development form a part of the training. The normal school must adapt itself to its conditions. If the average applicant does not possess sufficient academic preparation for the pedagogical work, he must, of necessity, be given some academic training, but only as a necessity.

EDWARD T. PIERCE, Principal State Normal School, Los Angeles, Cal.: This question of academic training in normal schools is one for the future. We must look to the conditions of the present. One fact has been lost sight of. In all of the States of this country there is a system of examination for the certifying of teachers. Most of the examination questions are on scholastic subjects, very few on professional subjects. Now, until we have different grades of normal schools having different requirements for admission, we *must* have academic work. If we do not we shall not get students, for the graduates of the high-school and the university will pass an examination and go to teaching with no professional training. Then, too, the professional spirit acquired through a four years' course in a normal school is greater than that acquired by two years of work in the same school. I prefer a teacher who has acquired his academic training in a normal school, to one who has acquired it in a high-school and only the purely professional work in the former.

A professional spirit runs through the whole work, and this spirit must be a growth ; it cannot reach just proportions in a short time. It seems to me that we *must* have academic training in our normal schools in this country, and while we have an ideal for the future normal school, let us do the best we can for the present training of teachers for the masses.

PRESIDENT JOHN HULL, of River Falls, Wis., cautioned normal school teachers and others against a misinterpretation of normal school statistics. The measure of the influence of a normal school is not determined by the number of its graduates. Its undergraduates are a potent factor in its final products. And the good produced in its students is multiplied many times in schools taught by pupils of those who have attended normal schools. For the present, academic work must be done in normal schools, and some good results are growing out of present practice in that respect.

DR. G. STANLEY HALL, President of Clark University, believed that teachers should have a thorough knowledge of children, of their physical and mental natures. What would father or mother take in exchange for the good health of son or daughter ? The order of development of the bodily powers and of the means to use, to make them strong, are not less important than is a like knowledge of the mental powers. The demand is strong, and it is growing stronger, that instructors of youth shall, like Jesus of old, take the child, set him in the midst, and after full study of him and of the conditions underlying his soundest development, shape all his environment in such fashion as will surely bring about the desired development.

WHAT SHOULD BE REQUIRED OF AND UPON WHOM IS TO BE CONFERRED THE DEGREE OF DOCTOR OF PEDAGOGY?

BY JEROME ALLEN, PH.D., PROFESSOR OF PEDAGOGY, UNIVERSITY OF
THE CITY OF NEW YORK.

It has been the custom for many years to confer upon those who have completed specified courses of study some appropriate degree indicating the satisfactory completion of certain requirements. Whether these degrees are proper distinctions cannot here be discussed; it is sufficient to recognize their use by all higher institutions of learning, and their almost universal acceptance by all to whom they are granted. During recent years a number of degrees have been added, and it is often puzzling to know just what certain letters mean, for all kinds of distinctions are published by various cabalistic letters, not only in language, science, and art, but in the common arts, as bookkeeping, typewriting, pharmacy, and surveying. Almost every young person who has attended an established school for a length of time is authorized to use certain letters after his name, indicating the possession of a degree. But, until recently, graduates of normal schools and teachers of eminence have nowhere been recognized by any degrees as marks of special excellence in educational study and teaching ability. Various efforts have been made to establish such degrees in education, the most recent of which was two years ago, when Professor Sully moved in the governing board of the University of London that degrees in education should be granted by that body. The motion received a tie vote, and only failed by the casting of the chairman's vote in the negative. In this country, three years ago, the University of the City of New York established a department of pedagogy, with courses of study leading to the degrees of Master of Pedagogy (Pd.M.), and Doctor of Pedagogy (Pd.D.).

The highest degree in education must be the doctor's degree, and because of its eminence great pains should be taken to guard it so carefully that it shall not fall into contempt. What qualifications should a doctor of pedagogy possess?

It is evident that any one seeking this high degree should, first of all, possess a strong personality coupled with strong integrity and an elevated moral purpose and character, for without these qualities no amount of intellectual culture or scholastic attainment would result in other than doubtful success, if not absolute failure. Eminent teaching ability is an essential qualification, but in addition certain branches of study must be understood, of which the *First* is—

THE HISTORY OF EDUCATION.

This stands at the vestibule of a pedagogical course of study, for it is obvious that without a knowledge of what other teachers have thought and done; their successes and failures; their theories, principles, and practices—no great advance can be made in the study of psychology and methodology. Educational psychology is the study of the workings of the cultured mind, both in its present manifestations and past characteristics. Each age must be studied for the purpose of finding out conditions of mental activity regulating the thought of that age. The study of the history of education is the study of the methods of training the immature mind, and it shows why these methods have changed, owing to race-forces, religious and governmental influences.

The old Grecian was different from the old Roman education, and these differed from mediæval education. No age has produced such schools as our own, because the circumstances governing our civilization are different from all other eras. The study of

the history of education shows the forces causing these changes. It is, in reality, a study of educational causes and effects. The thorough student, then, of this department is better able than any one else to answer the question, at this time more important than any other: "What kind of school training is most worth?"—for he sees under what conditions success is attained, and in what ways failures have been caused. It is to-day as true as ever that we have but one lamp by which our feet are guided in the administration of school and governmental affairs, and that is the lamp of experience. What this experience is in education, can only be known by studying the pages of history. It is, then, essential that the student, before he receives the doctor's degree, should know thoroughly the history of education.

Second. He must know psychology, and especially that part of this science that has been called, recently, *educational psychology*. The child is the center of all school work, and in prosecuting it so many questions press themselves upon the attention of the modern teacher that he is in some danger of being overwhelmed by their very number. How does each faculty unfold? What promotes the healthy growth of the whole mind, and what of each of its activities? What is the psychological value of the kindergarten? What is the effect of kindergarten training upon the maturing infant? What is the psychology of early language teaching? What is history teaching? What is the mental effect of the marking system, and what does mind-study tell concerning the proper method of grading? Psychology is ready to teach the student of education valuable lessons in ear-mindedness; eye-mindedness in writing and spelling and reading; in literature-teaching, and in character building. It even touches gymnastics and the whole subject of physical education, and gives not valuable hints only, but lays down essential principles that must be followed. It touches morals, and shows how the mind can become influenced by right motives and how it may become the abode of foul birds of prey eating out its very vitals.

Third. The doctor of pedagogy must know educational methodology. This is the most comprehensive of all the subjects the educational student is called upon to consider. Ways of doing things occupy the attention of many teachers' institutes and conferences as well as the pages of educational papers, but the science of method considers the principles underlying school economy. Education is a science, because there are fundamental principles which can be followed with logical strictness. Many of these principles are now clearly formulated and generally accepted, others are soon to be received. There is now apparent a body of educational doctrine of sufficient magnitude to engage the serious attention of the student of method. The doctor of pedagogy must be able to give definite reasons for his ways of teaching. His devices come from his philosophy, and when he desires to know the proper method of procedure, his psychology and his philosophy of the history of education give him the needed information. Among the subjects occupying the attention of the candidate for the doctor's degree are educational values, coördination of studies, incentives, school hygiene, fatigue, school diseases, school organization and management, child study, adolescence, and manual training.

Fourth. The doctor of pedagogy must know the educational literature of the ages, commencing with Plato's educational theories in his "Republic," Aristotle's in his "Politics" and "Ethics," and Quintilian's "Institutes of Oratory," followed by Ascham, Locke, Comenius, Milton, and closing with Arnold, Spencer, and Harris. He must also know Pestalozzi's "Leonard and Gertrude" and its antecedent, the "Emile." He will have studied Froebel's "Education of Man," Rosenkranz's "Philosophy of Education," Rosmini's "Method in Education"; nor will he omit the reading of Page's "Theory and Practice of Teaching," Mann's "Reports," Boone's "Education in the United States," and De Garmo's "Essentials of Method." He must be acquainted with the scientific investigations already made, as well as those now making in this country and in Europe.

Fifth. The doctor of pedagogy must know the school systems of Europe and America, and in our own country the relation of education to the state, city, county, and district systems. The reconstruction of school systems in France, Germany, and England will be studied for the purpose of showing what adaptations can safely be made in our country. In the progress of the years some educational practices are seen to be valuable, others valueless, and others positively vicious. He must be able to discriminate between these classes, and know the conditions of the successes and failures of experiments in education. Some of the best scholars in the Old World are studying the educational question for the purpose of finding out how to better the condition of the laboring classes.

These questions are to be the vital ones during the next twenty-five years in our country, and the doctor of pedagogy must be able to assist in answering them. Our schools are to be much more, even in the future than in the past, factors in the civilization of the people. They will teach more directly the art of living, not only by giving necessary knowledge, but by instruction in such practical arts as will minister to the comfort and happiness of the family and community. The doctor of pedagogy will know how these needed applications can best be made.

Sixth. The doctor of pedagogy must make original investigations in some branch of child study or experimental psychology for the purpose of determining the educational values of various branches of study in our schools. He will demonstrate what pays and what does not pay in teaching.

The habit of making original investigations and the practice of basing statements on facts will make him a valuable worker in the educational field. He will learn to discard theories and accept nothing as truth that has not been subjected to actual trial.

The candidate, before receiving his degree, must present a thesis of adequate length, consisting of an original investigation in some branch of educational study, either psychological, practical, or historical, showing his ability to make original research. No doctor's degree should be conferred until such a thesis has been accepted.

The qualifications of the doctor of pedagogy as here outlined are not unattainable or Utopian; on the other hand, they are within the reach of men and women who have acquired scholarly habits of study in our schools and colleges. If a large number of persons should master the work here mentioned, the result would be the creation of a class of students who would give a decided impetus to sound educational progress and prepare the way for the organization of a body of professional teachers.

WHAT SHOULD BE REQUIRED OF A CANDIDATE FOR THE DEGREE OF DOCTOR OF PEDAGOGY?

BY DR. EDWARD R. SHAW, OF THE SCHOOL OF PEDAGOGY, UNIVERSITY
OF THE CITY OF NEW YORK.

It is auspicious for the cause of education that those interested in the professional training of teachers should deem it of interest and value to discuss what should be required for this degree. One thing, however, it is best for us at the outset to hold in mind, and that is that our discussion will have but little effect in setting up a standard for the colleges and universities now granting this degree, or those universities which intend soon to offer courses leading to this degree. Each institution will be a law unto itself, so far as the setting up of its standard is concerned. Requirements for the degree of doctor of medicine or of doctor of philosophy differ in different institutions. It is,

after all, not so much the course of study prescribed, but the training given and the man who takes that training, that makes each man's degree of worth.

We must expect, then, that the degree of doctor of pedagogy will be given upon somewhat different requirements. The main point, however, the gratifying point, is that we have reached a period when such degrees are beginning to be conferred as the result of higher and broader study than has heretofore existed for professional preparation. Of course there has been extended special preparation in pedagogy of here and there one. But we recognize in the offering of courses of study leading to this degree a distinctive movement in advance. It is not the special cases that may be cited, but the tendency of the rank and file, that gives the surest signs of progress.

It is now about fifty years since the establishment of the first normal school in this country. Most excellent and valuable as is the work now being done by the well-nigh two hundred normal schools of the United States, something more is necessary if teaching is to become a profession. I believe that the next step is now being taken in the establishment of professional schools, of which already there are three or four, offering a course of study strictly professional, and granting as the highest degree upon the accomplishment of that course the degree of Pd.D., Doctor of Pedagogy. Unquestionably the requirements for this degree will advance with the increase of candidates who desire to study for it.

The first thing to be considered in the requirements for this degree is the scholastic attainment necessary as a foundation in entering upon the course of study leading to this degree. Here is room for diversity of opinion. It ought not to be less than that required by most of our colleges for the bachelor's degree. Whether this scholarship is acquired in college, in normal school supplemented by additional study, or from private instructors, does not signify; but somewhere and somehow it must be acquired.

One other qualification appears to me to be indispensable. Before one can enter upon a course of study for the degree of doctor of pedagogy with the greatest amount of profit to himself, there should be a preliminary experience in teaching extending through a term of years. I should say at least four years. With these qualifications he is ready to undertake a course of study leading to the degree the requirements for which are under discussion this morning.

Among the requirements for this course of study my colleague put as the first the study of the history of education. I differ from him in regard to the position of this subject in the course, and incline rather to agree with Dr. Harnack, of the *Pedagogium* of Vienna, in his view that the history of education should come last. As the first work in this course of study—the ground which the candidate should first cover—I would place rational psychology and physiological psychology, each a separate course. It is unnecessary to go into any detail as to these courses. They should cover both fields in a thorough manner. Each gives a different kind of training—the latter being quantitative—but both kinds of training are most necessary for a doctor of pedagogy. The so-called educational psychology should have no place in this course. After a study of rational psychology and physiological psychology, the student should be left to make his own educational psychology.

The third course should be upon the institutes of education. Under this course should come an examination of the commonly accepted principles and maxims of education, to determine their scope and the limitations of their application; a study of the education values of the different subjects, and how this value is affected by mode of presentation; the coördination or correlation of studies, with practical application to show how coördination might be secured; an exhaustive examination of the doctrine of apperception and the Herbartian pedagogy; a thorough study of all that is known of school hygiene and its application—one of the most important subjects, because so little regard is paid to what is commonly known of this subject; the training of the

will ; child-study, and all discovered means of measuring the growth of intellectual and moral powers.

"Should there be nothing upon methods of teaching ?" you ask. There should be no giving of specific methods of presentation, but there should be a critical examination of different methods in vogue. The philosophy of method is the adaptation of method to the needs of every individual. Method should be as various as the pupils taught, and the doctor of pedagogy must recognize the philosophy of this and seek to acquire the power of adaptation.

After the three courses which I have enumerated, the study of the history of education should come. There are various ways of studying the history of education. Its educative value depends, as is true of any other subject of study, upon the way in which it is studied. If merely as an informational subject, its educative value is slight. Narrative work may be interesting, but it gives little training. It should be studied inductively, seeking cause and effect, drawing materials from intellectual, religious, and political history.

These four courses should constitute the major courses. As minor courses—one or two of which should be required, but be at the same time elective—there should be offered a study of system of education in Europe and the different state systems here ; æsthetics in its application to education ; a course in ethics, and one in the history of philosophy.

Lastly, the candidate for the degree of doctor of pedagogy should be required to make original investigation along some professional line, either in experimental psychology, child-study, some phase of school hygiene, or whatever field his interests may lead him to explore. The result of this original investigation should be presented as his thesis—a thesis being the last requirement for the degree.

One other point in conclusion. University work in pedagogy does not interfere in the least with the work of the normal schools, but supplements it. Higher and broader study than these can give, or are equipped to give, is necessary if teaching is to become a profession. Normal-school training is a most excellent basis, perhaps the best basis, for this higher study, but the higher work must be done by the universities, and it is most auspicious for the vocation of teaching in this country that universities are to-day offering courses in pedagogy leading to a professional degree.

REQUIREMENTS FOR THE DEGREE OF DOCTOR OF PEDAGOGY.

BY DR. CHARLES A. MCMURRY, ILLINOIS STATE NORMAL UNIVERSITY.

THE requirements for the degree of Doctor of Pedagogy should not be confined to scholastic instruction, but should be extended much beyond these limits ; and at the same time certain results of scholastic instruction should be excluded. We want light, simple direct light, upon our educational problems.

There is good reason why pedagogy is one of the last and least developed of the sciences. It includes everything else. We say this with some sense of the profound difficulties that lie before the thoughtful student of pedagogical science. When we consider the scope of education from infancy to maturity, including the complex and varied school systems, also the sciences of physiology, psychology, and government out of which it grows, it is appalling to find that pedagogy means the whole philosophy of human development along the best lines. The person who thinks that doctors in this field can be manufactured by any short process is dreaming.

The work of developing a scientific pedagogue is quite different from that of specialization in other lines. First of all he must be broadly educated ; then let him become a careful, thoughtful *critic* of the long process of training through which he has passed ; let him examine the history and development of school studies in his own and other lands ; let him critically survey the vast body of knowledge of which the school studies are, at the best, meager epitomes ; let him inquire what there is in literature, in science, in history, in art, and in home surroundings, most conducive to the best growth of a boy and girl ; let him learn to deal with children sympathetically and thoughtfully—then he will begin to realize how profound and many-sided is the work of education.

The doctor of pedagogy should have a critical knowledge of knowledges, an appreciative insight into child psychology and growth. The person who believes that pedagogical doctors who master all these matters can be turned out easily, must be more than sanguine in his beliefs.

In the second place, the study of *psychology* is a sheet anchor for the pedagogue. But we are opening our eyes to the fact that psychology for the educator means something quite different from what has long prevailed in the schools. The psychology which is purely introspective and contemplative has had its day. But what we want now is careful and sympathetic observers of children. We need now a sympathetic children's psychology all along the line from the kindergarten through the public school, and in connection with this a practical study of the physical wants and growth of children.

The *history of educational tendencies and movements*, especially since the Reformation, and the revival of learning, is extremely helpful in giving an educator a relief map of the educational world of our own time. It will save him from many a one-sided opinion and exploded notion. It will give him a true practical view of the slow growth of educational ideas. Many ideas that are heralded to-day as recent discoveries in education will be found to have been the common property of educational thinkers from the time of Comenius. The biographies of distinguished teachers like Comenius, Franke, Luther, Arnold, Wolff, and Horace Mann, will give every receptive teacher a consciousness of the true spirit needed in his work.

If there is to be such a person as a doctor of pedagogy, he should be first put through the severest of tests—the teaching of children in a practice school. There is nothing like a real school to show the distinction between theory and practice. It will tear away disguises, false theories, and reveal weakness and incapacity. There is only one good antidote to a broad study of theories and systems of education—*i.e.*, actual teaching.

In view of the immature status of pedagogical science, and of the extremely difficult and comprehensive problems that confront specialists in education, we feel a certain reluctance in admitting the right of any one to be called a doctor of pedagogy. Much as we believe that there is a body of educational doctrine which, if not strictly scientific, is still of great practical utility, and extremely helpful to teachers, we are still slow to recognize a course of instruction adequate to the training of doctors of pedagogy. Perhaps it is well to jump bravely in and swim toward the goal with one's best strength.

Our universities are feeling their way cautiously into this largely unexplored field. No one with clear eyes and strong sympathies can fail to see that there is pressing need of pedagogical training for the many teachers who go out from our colleges and universities. Many of them need it all the more from the fact that they are not conscious of their need. But university teachers and students are no longer so indifferent to the value of pedagogical science as they were a few years ago. The more exclusively absorbed teachers and students were in university pursuits, the less need they felt for pedagogical science. But now that the *unity* and mutual dependence of all parts of school education are keenly felt, the universities see the necessity of turning out well-equipped teachers and leaders of pedagogical thought.

There is still another convincing proof that strong thinkers are needed in the peda-

gological field. Learned specialists in different lines of study and investigation are slow to tell the pedagogical value of their subjects for children in the common schools. They are generally wise enough to limit their advice to their own academic field of instruction. It is the business of specialists to develop their particular fields. It is the special province of the scientific pedagogue to see what use he can make of the fruits of learning in all fields in developing a child. It is his business to step in to the relief not only of specialists but particularly of the common schools, to select the most important subjects, and to coördinate them in harmony with the needs of children. There is then a broad field which is the legitimate province of the pedagogue and unoccupied by anyone else.

The school of pedagogy at Jena, under the direction of Dr. Wilhelm Rein, is a place where theory and practice are brought into the best wholesome union.

Dr. Rein delivers lectures on psychology, history of education, and general and special methods; and also is director of the practice school of three grades—second, fourth, and sixth. A skilled training teacher is at the head of each grade, who not only teaches but is critic of the practice teachers who labor in his grade. Each student who hears pedagogical lectures with Dr. Rein, also teaches from two to five hours a week in the practice school.

Once a week a *test lesson* is given by one of the practicing teachers, in the presence of all the teachers presided over by Dr. Rein. Three days later this test lesson is carefully discussed by the teacher conducting it and by others specially appointed, as well as by the whole body of interested students. The discussion of an hour and a half is concluded by Dr. Rein giving a summary of the arguments.

Week by week throughout the year this careful mingling of theory and practice occurs, and the important ideas of educational science and practice gradually clear up.

HIGHER ACADEMIC DEGREES IN PEDAGOGY.

BY PROFESSOR S. G. WILLIAMS, CORNELL UNIVERSITY.

At the outset, is it not very doubtful whether there is any fit place for special degrees in pedagogy? For pedagogy is merely a branch of the philosophic disciplines—an application of the principles of ethics and psychology to the training of children and youth. It has always been so considered since Kant, from his renowned chair of philosophy in Königsberg, treated pedagogy as one of his proper subjects; since Herbart inaugurated his illustrious career as a philosopher by a course on pedagogy in Göttingen, and later, in the chair of Kant, made this a chief object in his courses, thus gaining an ever-growing influence in German education, which is likely to preserve the memory of his name when his philosophy, save in its relations to pedagogy, may be forgotten.

But the degree of Ph.D. already exists for the philosophic disciplines in their wide sense, including language, history, and economics. What reason can be given for creating a special degree in pedagogy which would not be equally good for giving special doctorates in history, in economics, and in language? or for like degrees in mathematics, chemistry, etc.? The same end would be attained, without a confusing multiplication of degrees, by conferring the well-known M.A. for distinguished attainments in pedagogy and the history of education, and the already used Ph.D. for such attainments coupled with distinguished services in this branch of philosophy.

It is to be feared that the proposal of special pedagogic degrees may be suspected to be inspired by a desire on the part of ambitious teachers to gain cheap doctorates.

Such a suspicion, with even slight justification, would be likely to revive the contemptuous meaning long attached to the term *pedagogue* and to its derivatives, but which in Germany has now completely, and in the United States nearly, died out.

If now, in the presence of such legitimate objections, we admit the expediency of creating special pedagogic degrees, the question at once emerges, *By whom* and on *what terms* shall they be conferred? It is obvious that this twofold question is of vital importance, if the danger is to be avoided of having pedagogic titles become at once marks for obloquy rather than for honor.

With regard to the first branch of this question there would seem to be little room for a difference of opinion. No institution should assume to grant the higher degrees in pedagogy which has not ample facilities for affording the extended instruction which advanced pedagogy at present presupposes. But comparatively few such institutions are now to be found on this continent, and these, with few exceptions if any, are content with the existing higher degrees for their advanced students in pedagogy. Doubtless no one will claim that normal schools, however respectable, should assume to grant a master's degree or a doctorate in pedagogy, for their diploma of graduation is sufficient merely to admit to the lower classes of our best colleges.

The real point where differences of opinion are likely to arise will probably be connected with the question of the *terms* on which the higher pedagogic degrees shall be conferred.

And first, as higher degrees, they should, like all other advanced degrees, presuppose the completion of a thorough college course. On this point there would seem to be room for no serious difference of opinion, for without this requirement the danger that such degrees would be rendered contemptible by being cheapened would at once be converted into a reality. The question of resident study under the guidance of professors at some higher seat of learning may here be left in abeyance, since, though highly expedient, it may be conceded that it is not absolutely essential. It should, however, be said that the general tendency among our higher institutions is to require such resident study for all advanced degrees aside from the too large list of mere honoraries.

Taking for granted this preliminary requirement, it would not seem too much to expect from the candidate for the master's degree in pedagogy that he should have a sound acquaintance with the fundamentals of his subject, ethics and psychology; that he should have such knowledge of the history of education as may be gained from the not numerous treatises on that subject now existing in English, supplemented by Laurie's "*Rise and Constitution of Mediæval Universities*," or Compayré's "*Abelard*"; the larger German works of Von Raumer, Karl Schmidt, and Paulsen being fitted for more advanced work; that he should have such familiarity with the theory of education as may be obtained, for example, from Bain's somewhat one-sided "*Education as a Science*," supplemented by some easier German work on the same subject, like the second part of Dittes' "*Schule der Pädagogik*"; and that he should prove his mastery of these subjects either by an examination, or by a thesis on some pedagogic subject succeeded by an examination.

On such terms only, it should seem, would the master's degree in pedagogy be entitled to credit.

The degree of doctor in pedagogy is obviously a more serious matter. It should be the highest honor that may be gained in a most important profession, and should therefore be conferred only on approved superiority both in attainment and in original power. As regards attainments, the more elementary course just mentioned should be enlarged by some knowledge of the history of philosophy; by such deeper knowledge of the history of education as may be gained from some one of the larger works recently named; and by the mastery of some work like the "*Pedagogische Schriften*" of Her-

bart, or the "Allgemeine Pädagogik" of the Herbartian, Waitz, or the "Erziehungs und Unterrichts Lehre" of Benecke.

The thesis is the proper test of originality and power of research, and for this pedagogy affords a wide range of profitable work. The history of education has rich fields, still but imperfectly explored. The question of the relative educational efficiency of groups of studies has not yet reached any generally accepted solution. The work so well begun by Preyer and Perez admits, under favorable circumstances, of a wide and profitable extension. The contents of the youthful intelligence at various stages of development will richly repay a systematic investigation, the best means for which still await the ingenuity of some explorer. More than eighty years ago Herbart clearly saw what the mass of teachers still but dimly apprehend—viz.: the difficulties arising from the inability of the mature mind to conceive and adapt itself to the child's point of view and mode of approaching subjects—and he proposed a curious expedient for obviating this difficulty in the special case of languages. Can a better and more general solution of this problem now be offered? These are but hints, which need not be multiplied, of lines of investigation in which originality may be shown and a philosophical grasp of facts manifested.

Whether theses for the doctor's degree in pedagogy should be required to be of such originality and excellence as to warrant their publication as contributions to pedagogic science, is a question that need not detain us here.

The question of successful experience in teaching as a requisite for the doctorate presents greater difficulties. It will doubtless seem to many that to confer it on merely literary requirements, such as have been proposed, would be to ignore the important fact that practical skill in applying pedagogical principles to the work of education and instruction is the chief reason for the study of pedagogy as a science, that ability to *do* as well as to know is here of paramount importance. Yet, useful as training classes unquestionably are when they are attainable by our universities, it is more than doubtful whether they afford any reliable test of the real *educative* efficiency of the candidate for the doctorate. Their exercises can at best do no more than afford some indication of probable skill in instruction. This question may rightfully demand the careful consideration of the congress. Meanwhile, it may not be amiss to suggest that where the aspirant for the doctor's degree is not already a person of approved experience in teaching, it might be expedient, when the literary requirements have been fulfilled, to delay the conferring of the degree until skill in the application of principles has been proved by the successful management of schools.

Should the terms here proposed seem to any to be too stringent, they may at least suggest the care with which such new degrees need to be guarded, that they may not incur the risk of becoming at once contemptible.

DISCUSSION.

T. B. STOWELL, PH.D., Principal of the State Normal and Training School at Potsdam, N. Y.: The discussion of these requirements for the doctorate of pedagogy admits of three modes of treatment—the historical, the philosophical, and the practical.

In the historical mode, it would be proper to tabulate the courses of study which have led to the degree, or to a degree for whose attainment the requirements are chiefly or exclusively pedagogical. It is known to this body that in German and in English universities the course in pedagogy is not yet differentiated from the courses in letters, and leads to the doctorate of philosophy, and is accessible to graduates of the gymnasium, or to juniors in a first-class American college with the standard of Yale.

Among our American colleges, the University of Michigan, the first to introduce a course in pedagogics into the college curriculum, regards the course as it does any course in science which leads to the doctorate of philosophy. Columbia confers the

baccalaureate and the master's degrees in pedagogy—Ped.B. and Ped.M.—but has not differentiated the doctorate. In its Circular of Information, 1893-94, part vi., pp. 5, 6, 7, 9, it gives details of studies to be pursued, etc. (q. v.).

In the courses of graduate instruction of Yale University for 1893-94, p. 5, is found a special course for teachers leading to the doctorate of philosophy. The University of the City of New York, in its catalogue and announcements for 1892-93, p. 82, offers a graduate course leading to the doctorate of pedagogy (q. v.).

In the philosophical mode of treatment at least three lines of inquiry are opened. *First.* The relation of a profession to the content of its highest degree. *Second.* The requisites for the judges of qualification—i.e., who shall confer the degree. *Third.* The eligibility of candidates.

All members of a profession concur in every action to prevent any lowering of the standard of the profession, and to oppose every effort to detract from its recognized dignity. We cannot guard too jealously the doors which lead to the doctorate of pedagogy. The teachers of the country have themselves to blame for any lack of influence or recognition which attaches to the profession. If we by silence or by direct action bestow our laurels unworthily, we must not complain because of consequences. It is possible at this date to raise the standard of teaching, to place it in the van of the learned professions, by making its highest honors accessible to those only who have honored it, and who will continue so to do. Already the list of degrees is long, but it is none the less significant. A.B., A.M., Ph.D., or Ph.B., Ph.M., Ph.D., LL.B., LL.M., LL.D., Ped.B., Ped.M., the proposed, now already existing Ped.D., and numerous other baccalaureates, master's degrees, and doctorates are accessible.

In the standard universities of the Old World, the theory obtains that a prescribed course of study and experience shall be a prerequisite to the doctorate, and that this distinction shall be conferred only by faculties of colleges, which faculties, by virtue of their distinguished attainments, are recognized as qualified judges of the merits of candidates—i.e., there is a consensus of judgment, if not written law, relative to the qualifications of the conferring body. Thus, a candidate holding the baccalaureate in divinity is eligible to a prescribed course in theology, and upon examination is eligible to the doctorate. A corresponding course under the supervision of the faculty of law leads to the doctorate of law.

A school of pedagogies should offer facilities for research along three cognate lines:

(1) A department of historical and philosophical study, a seminary where the results already attained by all the students of the subject may be accessible. This is essential to intelligent as well as to economical research.

(2) A department or laboratory for physiological and for psychological research. The Old World offers such laboratories, and several are established in our own country.

(3) And most important, a department of practice, an actual school in which, under the most critical supervision, the hypotheses evolved from the courses already named may be tested, and from which department theories, not hypotheses, of teaching may be promulgated.

I am persuaded that the training of teachers should be predicated upon a more sure basis than the history and the current trend of education. *Skill in the art of teaching should be differentiated from academic knowledge.* The point is vital to the status of the profession as well as to results in the schoolroom.

Eligibility.—To those, and those only, who possess the skill, based upon critical scholarship, of a high order, and upon well-authenticated experience as teachers, should the doctorate be accessible. To this should be added a thesis evincing original research in—

(1) The master's degree in letters, in philosophy, or in science, as evidence of general scholarship.

(2) Knowledge of the history of pedagogy, of the theories of eminent teachers, founders of schools or systems of teaching, as evidence of a department of technical scholarship.

(3) Knowledge of contemporary systems of teaching, as evidence of progressive technical scholarship.

(4) Such contributions to pedagogical literature as will demonstrate grasp of the principles of soul growth and development, and a special thesis embodying the results of original research of such character as to evidence originating power.

(5) Five years' experience as a teacher in secondary or higher institutions of learning, academies, colleges, or professional schools.

The foregoing provision excludes the conferring of honorary degrees.

The writer dare not presume to discuss the practical phase of the question. In view of the great diversity in the requisites for existing degrees, it seems desirable that at least a minimum should be determined for the doctorate under consideration. Such standards exist in theology, in medicine, and in law.

*THE CANDIDATE FOR THE DEGREE OF DOCTOR OF
PEDAGOGY SHOULD BE ABLE TO MAKE ORIGINAL
INVESTIGATIONS IN EXPERIMENTAL PSYCHOLOGY.*

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SINCE pedagogy is one of the fields of applied psychology, it is reasonable to assume that a candidate for the degree of doctor of pedagogy can have no adequate grasp of his subject without an intimate laboratory knowledge in experimental psychological work. He should not only know all the chief methods of research, but also be able to observe for himself all the more important phenomena of mind, and to aid simple introspection, extrospection, and ejection by scientific variation of one condition after another until the definite influence of each factor in the problem has been traced.

Psychology is not specially interested in pedagogy. It seeks to keep conditions natural; pedagogy seeks to superinduce new conditions in its efforts after an ethical ideal. The student of pedagogy must therefore go down to the fundamental science, and learn at first hand the facts of mental life, good, bad, and indifferent, before he can select those that are desirable, and contrive the means of reaching ends in the best and quickest way; or, in other words, establish educational values in school curricula.

To know what psychical facts are, how to get at them, record and classify them, to determine what is normal, how to study mental defect, and to make systematic measurements so that the child mind may be studied as an object of natural science, are matters of more than simple introspection or commonplace observation.

Our laboratories and journals show that exact methods have been applied to mental investigations. To know in the main what has been done and is doing in this direction, the candidate for the degree of doctor of pedagogy should be required to familiarize himself with the standards in the literature of the subject, to sift what is current, and to verify results experimentally.

Slowly but surely the results of experimental physiological psychology have been carried over into pedagogy. Yet there are some teachers of prominence and of acknowledged success who see no profit for education in psychologic experiment. On every possible occasion they deny that the so-called new psychology has brought about any changes in education, or that it has anything of value to offer. Let us consider this.

The play instinct has long been recognized as one of the strongest instincts of childhood, but it has only lately been held that play is the most serious business of a child's life. As a direct outgrowth of the experimental study of the psychology of play, the kindergarten has come into existence with its multifarious curriculum for training sense, refining the emotions, and regulating the will. The spirit of this new institution has permeated the higher schools; corporal punishment has largely disappeared, and greater efforts are made to give the pupil opportunity for self-activity and self-regulation both as to curriculum and discipline.

The experimental study of sense-perception, especially in the intuition of space, has developed a new theory of vision, and brought out the paramount use of touch in education, culminating through the handling of objects in natural science observation lessons, through plaiting, weaving, folding, modeling, making, painting, drawing, and the like, into full-fledged manual training, against the introduction of which into the curriculum conservatism has struggled and is yet struggling in vain. Modeling and

making have taken their natural place. On the same basis inventional geometry has taken its proper precedence, though not a few of the secondary schools lag wofully in this matter, and still induct their pupils into the mysteries of algebra before even touching upon the simpler and more concrete study of geometry.

An experimental study of the psychology of expression has revealed the truth that expression by abstract symbols, or by words, is the latest and most difficult form of expression. In this matter experimental psychology has done for education what chrono-photography has done for the art of painting in the photography of the swimming of fish, the galloping of horses, the leaping of athletes, the flying of birds, and other forms of vital action. No artist to-day draws zigzag lines for lightning.

The order of psychological development, as determined by experimental psychology, has determined the contents and the logical order of procedure in a well-constructed curriculum. We may instance here the history of the study of foreign languages and of the physical sciences in elementary and secondary schools. The methods of treating these subjects still vary according to the underlying principles of psychology.

The psychological analysis of the mental operations employed in arithmetic has proven that the educational value of this branch of the curriculum is not so disproportionately great as to warrant the amount of time and attention bestowed upon it.

Experiments in association have developed with startling vividness, for those who can see, the capital importance of coördination of studies, not only to save time and energy by following natural mental processes, but to secure truer mental development and firmer mental products.

Experiments in the localization of cerebral function have revealed many memories instead of one, and instruction has accordingly been modified. Ear-minded, eye-minded, and tactile- or muscular-minded children are less frequently misunderstood, and are more readily and thoroughly aided. The old-fashioned oral spelling lesson, however efficacious for the ear-minded, has lost its vaunted prestige, and takes a more modest, though not unimportant, place.

Experiments in motor ability have made manifest the function of the reflex muscle machine, and the resultant theory of the formation of compound reflexes has determined the ruling distinction between the mechanical and the cultural branches of a curriculum. Patient, unvarying, persistent, and repeated drill in the one has given way in the other to large freedom for individual discrimination. A mechanical grind on lists of geographical names and bald annals in history finds no justification in educational psychology.

There has been no attempt to mark out in exhaustive detail all the tangential points between psychology and education. Enough has been outlined to indicate the determining influence of psychology. There is much that teachers are conscious of in themselves, and observe in one another, that yet eludes their own interpretation. Why should they not admit the reasonableness of collating experimental evidence and generalizing definite laws that may serve as clues for escape from labyrinths of doubt?

Whatever else, therefore, it may be deemed wise to require of a candidate for the degree of doctor of pedagogy, there seems to be no doubt that he should be able to make original investigation experimentally and scientifically in the study of mind so as to reach fundamental laws by which to determine educational values.

SHOULD ORIGINAL INVESTIGATION BE REQUIRED IN
SOME BRANCH OF CHILD-STUDY FOR THE DOCTOR
OF PEDAGOGY DEGREE?

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PERSONALLY, the writer of this paper has no sympathy with academic degrees, and he laments their multiplication. But since we cannot yet abandon them, we must define the conditions under which they shall be granted. A debased academic degree, like a debased silver dollar, can breed only ruin.

If the doctor's degree is to be given in pedagogy, it should be given for a grade of scholarship equal to that demanded for the doctor's degree in philosophy—that is, a good undergraduate course of four years plus a three years' post-graduate course—otherwise the degree will fall into deserved disgrace.

The most of the post-graduate work, I should say, should be in the nature of original investigation, and the results of the investigation should be embodied in a thesis of merit. This thesis for the doctor of pedagogy degree might be on any subject connected with educational work.

Teachers deal with children. In an ultimate analysis that is all they deal with. Buildings, organization, books, studies, and systems interest them only because of their possible application to children. To grant to a pedagogue the highest academic honors to which he can attain, without his knowing the materials with which he is to work, would seem to me utterly absurd. Hence I should say the candidate for the doctor's degree in pedagogy should pass an examination which would show that he was conversant with the results of the latest and best studies made on children.

But if we are to keep pace with other professions, more than this is necessary. The candidate for the highest honors in the medical profession to-day must not only have read the latest works on anatomy, physiology, medicine, and surgery, but he must have actually worked with the real things with which his profession is concerned, in the dissecting-room, the chemical laboratory, and the hospital. The candidate for the degree of mechanical engineer must not only have studied the latest works on mechanics, but he must have worked with wood and iron in the workshops, and with actual machines. The whole educational movement of our times is in the direction of demanding work with the realities which are being studied. Hence it would seem that a teacher who is a candidate for the highest degree known to his profession, should have studied in a scientific spirit the children, with which he is to work through life, under the direction of a competent professor.

This demands an experimental school in connection with the department of education, which shall have the same relation to the department of education that the hospital has to the medical school. As the New York *Evening Post* said some years ago: "The time must soon come when it will be considered as absurd to have a department of education without children as it would now seem to have a department of chemistry without a chemical laboratory."

The doctor of pedagogy should then, I should say, not only know what has been learned up to date in the scientific study of children, but he should have studied children himself under competent direction. These studies need not, I should say, be in the nature of original investigation, except in spirit. They need not necessarily add an increment to the sum of human knowledge, providing his thesis, dealing with the historical or administrative aspects of education shows a superior grasp of intellect, and the ability to stand alone and reach sound and independent conclusions.

CHILD STUDY IN CONNECTION WITH THE PROFESSIONAL TRAINING OF TEACHERS.

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THE teacher, as much as any other artist or artisan, is a workman. For the same reason that the painter or the carpenter must know the tools with which he works, the teacher must know the subjects of instruction which are to be presented to his pupils.

Besides knowing his tools, however, the painter or the carpenter must know the nature of the material to which he applies his tools ; and by carefully noting the effect of this application, he gains a knowledge, the use of which results in a skill in fashioning, which insures a great saving of time and energy, as well as a great increase in the value of his products.

In a similar way the teacher, in addition to knowing the subjects of instruction, must know the nature of the material upon which he works, viz., mind in general, as well as the nature of the particular mind with which he has to deal. In addition to this, he must be able to observe accurately the effect of any subject of instruction, as well as the effect of the manner of its presentation upon the mind of the pupil.

Having knowledge of the subjects of instruction, knowledge of the nature of mind, and power to observe the effects of the application of these subjects to mind, together with the effects of the manner of presenting them upon mental growth, the teacher is in possession of the conditions for gaining a skill that must result in a great saving of time and energy, in a constant renewal of interest in his work, as well as in a finer development on the part of his pupils.

The effective skill of the artist or artisan is not to be gained incidentally, however. It means years of work, of observation of results, and of renewed work to secure better results. It means training under the criticism of masters, as well as training under self-imposed criticism. It also means training under the criticism of tyros, who, while they may know little or nothing of the subject under discussion, are yet very effective in keeping an expert up to the mark.

For the work of his profession, just as truly does the teacher need a period of special training under the direction of masters, by whose criticism he learns to measure himself correctly, and to estimate accurately the value of his own work.

The teacher in training needs to review the subjects of instruction with a view to presenting them. He needs a training in the observation of human beings, as well as a training in self-observation, with a view to discovering the laws of psychic action, and to recognizing the effect of motives under different conditions. Also, he needs training in the obser-

vation of children that will enable him to know the child, and to recognize the conditions that are affecting him for good or ill.

Important as is the study of all human nature, the study of the child is of more importance than that of the adult, for the reason that the most important truths are more plainly manifested in the simple, immature mind, of which the purpose is single, than in the complex, matured mind, of which the emotions are always more or less involved, and, consequently, are manifested more or less indistinctly or indirectly.

Another reason why the teacher in training should study the child is, that his work of teaching is to be connected with the child. His task is to develop the childish mind; and, valuable as is the study of the adult mind, it will not afford the knowledge needed for dealing with children.

Probably the chief reason why the psychology of the past, and even of the present, is not calculated to furnish a working basis for the teacher, was and is that it has been, as indeed it still is, a psychology of the mature, cultured mind, indicating the result of a complex education, and so does not indicate the mind before it was acted upon by intentional instruction.

To the immature teacher such a psychology must be misleading, as it must lead him to expect more from the immature mind than can possibly be realized, and thus result in his working above the capacity of his pupil.

This difficulty is constantly to be met with in English and Scotch psychology, and to a great extent in that of Germany. The one important exception is to be found in the Herbartian psychology, which system was evolved from the actual observations and experiments made by Herbart upon his own pupils.

The aim of the teacher in training is to acquire skill in presenting the material for knowledge, the subjects of instruction, in such a way that the time and energy of both teacher and pupil may be saved; in such a way that the best power of the pupil may be developed. To this end his work is a constant series of experiments with children, the effects of which must be carefully noted, and their desirable or undesirable features accounted for, so that the latter may be avoided, and the former secured again and again.

It may be urged that the regular class-room instruction is sufficiently well calculated to afford opportunity for observation and experiment upon children. If teaching were what it ought to be, this would perhaps be true; but that it is insufficient, as at present carried on, is perhaps proven by the fact, that, in the case of a great many teachers, the longer they teach, the more unobserving, the more unimpressible, they become in regard to their work.

As teaching is done at present, probably less of the real child is seen in the class-room than in any other place. We have all been in schools where automata would seem to serve the purpose of the teacher quite as

well as, if not better than, real living, thinking children. This, of course, indicates something wrong, and this something is probably ignorance on the part of the teacher regarding the nature of the work in which he is engaged. A reform in teaching is certainly necessary, and this reform is only to be secured by first gaining a knowledge of the child as he is when actuated by that which is within himself rather than by external influences. In the class-room the child is usually so enveloped with the teacher's personality that there is no possible opportunity for an original manifestation.

Before the teacher in training attempts formal instruction, and even before he attempts formal observation in the class-room, he will find it very profitable to occupy himself with individual children. He may watch them with a view to discovering what influences tend to arouse a desire to know; and, this desire being active, how they inform themselves by their own unaided, undirected effort. At such a time as this the real child is to be seen. The teacher may watch the child in the family, when he is one of several, and in the playground, where he is one of many. There he will have an opportunity to observe the tendencies that show one child to be an originator and a leader, and another to be an imitator and a follower.

He may frequent the haunts of the street urchin, and note how one lad succeeds in conveying an idea to another; note the way in which a motive impels an action; the effort spent to achieve a purpose. He may mark the argument which carries conviction; in brief, he may discover the way in which a live, natural boy perceives, reproduces, apperceives, cognizes, recognizes, interprets, creates.

When these things have been discovered, we shall be better able, no doubt, to adjust our schools to the real needs of children. We shall be able to bring the child in contact with the subjects of instruction in such a way as to induce him to bring to bear upon them as much earnestness and energy as he manifests in a game of "shinny," or in the construction of a water-wheel.

Making such observations as have been indicated, the teacher in training will become more attentive to the manifestations of child-life in the class-room, and will be better able to turn his observations to account in the processes of instruction.

The knowledge of the child, which is the fundamental knowledge of human nature, and I had almost said of Divine nature as well, must be gained by every teacher for himself. It cannot be acquired at second hand. The book will never give information that will apply to all cases. Hearsay evidence is not sufficiently reliable to base action upon. The teacher in training must himself work and watch and wait for results. Eternal vigilance is the price of knowledge in regard to the management of human beings.

Here the statement regarding the necessity for observing children as individuals may be emphasized. At present attempts are being made to examine children in masses, to strike averages, and to make generalizations that can hardly be reliable. Such work seems to me hardly practicable for the teacher in training, and if practicable, the results would perhaps be of doubtful value. I would not, however, wish to underrate the value of a certain kind of study of children in masses. The measurement of school-children of certain age by the thousand, or by the twenty thousand, as well as other estimates of physical conditions, if reliable, may furnish a basis for certain important inferences that may warrant modification in the action of parents and teachers. I doubt, however, whether an attempt to get at an estimate of the interests or the truthfulness of children in the mass will be equally satisfactory. For such points as these, and indeed, in the very early work, for all points, I should recommend a very careful study of the individual child, and before venturing on generalizations, I should recommend a careful study of a great many individuals.

A word may be said here regarding the necessity of the teacher in training being trained how to see, before much importance can be attached to the results of the observations made. The observer must learn to distinguish accurately between what he actually does observe and what he infers. If every teacher realized the importance of this one point, it seems to me that at least one-half the trouble in managing children would disappear. The tendency of the immature, superficial mind is to rush to conclusions before actual observations have been made.

Another point may be made regarding the necessity of freeing the observations made from sentiment of any kind. This is another vice of young, immature observers. The plain statement of a simple fact appears to them harsh and even insignificant. The garnish of fine words seems to give a flavor of originality, and is very tempting.

Perhaps it may also be well to warn the observer against selecting as specimens those children that are generally regarded as remarkable. Precocious or exceptional children are to be avoided as carefully as are freaks in any other department of natural history. The typical is to be sought for constantly, and it is to be found not very far removed from the commonplace. The exception should follow, not precede, the rule.

Having learned how to observe accurately, and how to state accurately the result of his observations, without any embellishment or retrenchment, the teacher in training may next be trained to think about what he has observed—to try to find a reason for a manifestation. This is, of course, a training in inference, and must not be allowed to degenerate into mere guess, and which must have a broad basis of actual fact.

Having found the cause for certain manifestations, the next effort of the teacher in training will be to learn how to avoid this cause if it be undesirable, and how to secure it again if it be desirable. This involves a

further exercise of inference, viz.: theorizing. Theories must have a basis in actual experience, and can only be of value to the extent that they are verified by actual experiment.

As an indication of the study of the child in a formal way, we may state that he *first* be studied as to what he is; *second*, as to what he does; *third*, as to what he says. *First*, as to physical condition, or state; *second*, as to physical movement, or action; *third*, as to language; *fourth*, conditions external to the child which may affect him in regard to any or all of the three points mentioned above.

Last of all the history of the child, so far as affected by the nationality, lives, and occupations of his parents. I mention this last, as it is in its very nature supplementary evidence, which if gained first may prejudice the judgment of the observer. The child as he *is*, is the first object of study; after this study, the observer should of course make use of all evidence that will be of use to him in forming a basis for inference.

The study of the physical condition of the child implies the observation of the state of the body as a whole, and of its parts, with special reference to the condition of the senses, and the amount of strength or vitality possessed by the child.

The second point—viz.: the study of movement—is probably of the greatest importance of any. The study of movement implies the observation of reflex actions, and of such movements as are caused by mental activity—*i.e.*, by thinking. The study of the expression of the child is attended with much difficulty. The character of the vocabulary as well as the content of the expression must be carefully noted and accounted for. Here it is very important that the observer keep himself free from prepossessions for or against what the child says. He must also exercise great care in his inference regarding the motive which prompted the expression. The definition of Talleyrand, that language is a means of concealing thought, applies not infrequently to the language of children as well as of adults.

THE IDEAL NORMAL SCHOOL.

BY DR. EDWARD BROOKS, SUPERINTENDENT OF PUBLIC SCHOOLS,
PHILADELPHIA, PA.

THE normal school problem resolves itself into two questions, that of organization and instruction. In both of these respects the normal schools of America present many diversities. This is readily accounted for by the history of their origin and growth. In the Old World a system of normal schools was carefully thought out by educational experts and established by state authority; neither the people nor the teachers had any voice in the matter. In such a case an ideal system could be engrafted upon the educational organization of a country. In this country, however, no such ideal system was possible. Our normal schools were not established primarily as parts of

a great system of popular education, but grew up spontaneously to meet a public demand. They were not imposed upon the people by the state, but were established largely by the people themselves. Many of them were for a long time mere private institutions started by some progressive and enthusiastic teacher, and demonstrating by their success their right to existence and state support. Gradually a public sentiment was created in their favor, and by action of State legislatures they became an integral part of the public school system of the various States. Only in some of the newer States were they made an essential part of the State system from the beginning.

Originating in such a way, it is clear that there must be great diversity in their organization and course of instruction. One peculiarity of most of them is that they are not strictly training-schools, but have two courses of study, a scholastic and a professional course. The scholastic course gives instruction in the different branches of study like an academy or seminary. Only in their professional course are they essentially different from these other institutions. This feature of a scholastic course has been a basis of criticism of the American normal schools. The ideal normal school, it was said, is a school in which professional training alone is given. An ideal normal school should not possess a course of instruction in the arts and sciences; a knowledge of these should be acquired in the academy or college. The instruction in a normal school should be exclusively professional; it should include only the science and art of teaching.

Judged by this standard, our State normal schools are not ideal schools; nearly all of them give instruction in the branches as well as in methods of teaching. But this was a necessity of their origin. They were established to meet an immediate want of popular education. That want was teachers of our common schools, teaching a few months in the year at from twenty dollars to thirty dollars a month. Young men trained in academy or college were not willing to go to a normal school and spend a year or two in learning how to teach a public school with such remuneration in view. Hence the only way to obtain young people prepared in the branches of study as well as in methods was to teach these branches in the normal school. A so-called academic or scholastic course was thus a necessity in our normal schools as first established. And even to-day, with increased remuneration, the normal schools of the country could not depend on students trained in academy or college. And I go further and say that neither the academy nor college gives that training in the elementary branches needed by a teacher of the public school, and it would be outside of their legitimate purposes to do so. Besides, the graduates of these higher institutions aspire to something that pays better than teaching in a common country school. So that whatever may be said about the ideal normal school giving only professional instruction, the fact remains that to fit teachers for the common schools of the country, the normal schools are compelled to give academic instruction in the branches. While it might be well to have in each State a higher institution known as a normal university or college of pedagogy, where college graduates and other young men and women with advanced scholastic preparation could be prepared for the higher educational positions, yet the great mass of the teachers of our public schools must be trained in normal schools organized as at present with a scholastic as well as a professional course. That these schools should be under state control, and be thus an integral part of our public school system, is too evident to need argument.

There is one place, however, where the so-called ideal normal school is possible in this country, and that is in our large cities, where the entire work of public education is under the control of one organization. Here a properly conducted high-school can prepare its pupils in the scholastic branches so that when they enter the normal school the instruction may be exclusively professional. Such a system I am now organizing in Philadelphia. There has been in this city for many years an institution known

as the Girls' High and Normal School, whose main object was the education of the women teachers of the city. It contained a scholastic and a professional course. These two departments are now to be separated, and the work done in two different institutions under separate control, one to be a girls' high-school, and the other a girls' normal school. The high-school is to contain three courses of study—a general course, a classical course, and a business course. Pupils who desire to become teachers will take three years of the general course, and then pass into the normal school and have a two years' course in pedagogy. This course in pedagogy will be strictly professional. Connected with the normal school will be a school of observation and a school of practice in which the art of teaching is to be learned.

The above remarks belong to the first part of the normal school problem—that of organization. A few words will also be added in respect to the course of professional instruction. The course of instruction should be based on the idea that teaching is a science and an art. The science of teaching is based on a correct conception of the teacher's will. First, the pupil has certain powers which are to be understood by the teacher and unfolded in the work of education. The work of unfolding these powers has been called *culture*, and the entire subject may be embraced under the head of *Methods of Culture*. Second, this work of culture is accomplished by the agency of knowledge, consisting of the arts and sciences. This knowledge has a certain relation to the mind; its branches have relative values in education; there are best methods of bringing it in proper relation to the mind—all of which may be embraced under the head of *Methods of Instruction*. This work of culture and instruction is to be done in a school, and this school is to be provided, organized, governed, etc.—all of which may properly be included under the head of *School Economy*. Then there is the *History of Education*, as of every other subject, and the *Philosophy of Education*, which embraces those broad and general principles of education that lie at the basis of educational growth and development. The science of teaching, it is thus seen, may be embraced under five distinct heads: (1) *Methods of Culture*. (2) *Methods of Instruction*. (3) *School Economy*. (4) *History of Education*. (5) *The Philosophy of Education*. Under methods of culture the entire nature of man should be studied and the best methods of unfolding his powers presented. It should include physical culture, intellectual culture, æsthetic culture, ethical culture, etc. The basis of physical culture is educational physiology; the basis of intellectual, æsthetic, and ethical culture is educational psychology. This psychology should embrace introspective, observational, experimental, and physiological psychology—indeed, every fact and principle that pertains to the development of the mental or spiritual nature of man. Under methods of instruction the nature of the different branches of knowledge is to be discussed—their origin and development, their relation to the various faculties of the mind, their educational value, and the principles and methods of teaching them. Under school economy should be discussed school-buildings, school organization, school employments, school government, school authorities, etc. The history of education and the philosophy of education should embrace as much of the respective subjects as the character of the students and the grade of the school will admit. In addition to these formally stated branches there should be original reading and investigation on the part of the students independent of the text-book or the lectures of the classroom.

The art of teaching is to be learned in two ways, by observation and by practice. There should therefore be connected with every normal school two distinct elementary schools—a school of observation and a school of practice. The school of observation should be taught by expert teachers, the most skillful and artistic that can be secured. All the most approved methods in all the different grades should be employed in this school that it may represent the most advanced educational thought and practice of the day. The pupils of the normal schools, as soon as they are ready, should spend a certain time

each day in this school to observe the work of these expert teachers, taking notes of their work and preparing for a subsequent discussion of the same. In addition to this school of observation there should be a school of practice, in which the pupils of the normal school should be required to do actual teaching for a certain period each day. This school should also be in charge of skillful teachers familiar with the best methods of modern instruction. The work of the student-teachers should be under the constant supervision of regular teachers, who are to observe and direct their practice. In this way the student-teacher may learn to put in practice the principles of the science of teaching learned in the normal school, and thus become master of both the science and the art of his profession. In most of the State normal schools it will be found more convenient to unite these two schools in one organization called the model school; in a large city it is possible to have them separate, which, as is obvious, possesses some special advantages.

DEPARTMENT

CONGRESS OF ART INSTRUCTION.

SECRETARY'S REPORT.

FIRST SESSION—WEDNESDAY, JULY 26, 1893.

THE Congress of Art Instruction met in Hall No. 8 of the Art Institute at 9.30 A.M., Wednesday, July 26, 1893. The Congress was called to order by Professor W. M. R. French, Director of the Art Institute, Chicago, who opened the session by a few remarks relative to the struggles which art schools have had to encounter at all times and places. There was no art instruction in the schools of Boston so late as 1873. Among the conditions which retard the progress of art schools are the irregularity of teacher and pupil, withdrawal of pupils, missing models, etc. All drawing is a training of hand and eye, even if the course has not been according to *my* system.

The first paper was presented by Mr. Henry T. Bailey, Supervisor of Drawing for the State of Massachusetts, on the following subject: "Drawing from the Flat to learn the Technique of Representation."

This subject was discussed by Professor J. Ward Stimson, of the Institute of Artist-Artisans, New York; by Henry Talbot, Superintendent of Manual Training in the State Normal School, Montgomery, Ala.; and Mr. Holmes Smith, Acting Director of the School of Fine Arts, St. Louis, Mo.

The second paper was by L. W. Miller, of the School of Industrial Art, Philadelphia, Pa., on "Importance of the *Æsthetic* Aim in Elementary Drawing."

This paper was discussed by Professor W. S. Goodenough, Supervisor of Drawing in the Public Schools of Brooklyn, N. Y.; and by Henry Talbot.

SECOND SESSION—THURSDAY, JULY 27, 1893.

Professor W. M. R. French occupied the chair.

A letter of regret was read from M. Levasseur, of the Academy of France. The Polytechnic Association of Paris was founded by the artist professors for the dissemination of art and industrial principles. It is entirely gratuitous, no fees being paid or received. From the original center at Paris have radiated branches of the institution in many of the large cities.

The first paper was by Professor J. Ward Stimson, of New York, on "Development of Art Instinct."

This was followed by a discussion on "Studying Art," by E. F. Fenollosa, of the Boston Art Museum (late of Tokio).

Professor George L. Schreiber, of Armour Institute, and of the Art Institute, Chicago, continued the discussion on "Art Study."

The third paper was by Dr. Alfred Emerson, Associate Professor of Classical Archaeology at Cornell University; subject, "How Pupils should study and analyze Works from the Great Masters."

THIRD SESSION—FRIDAY, JULY 28, 1893.

Professor French occupied the chair.

The first paper of the morning was by Professor J. M. Hoppin, of Yale University.

Mrs. Mary Dana Hicks, of Boston, presented a paper on "Does Art Study concern the Public Schools?"

Miss Josephine C. Locke, of Chicago, followed with a paper on "With what should Drawing begin?"

A discussion of this subject was continued by Mrs. Hannah Johnson Carter, Director Art Department, Drexel Institute.

Miss Anna R. Osborne Moore, of England, presented a paper on "The Self-correcting System of Drawing," which system she also called "The Philographic Method."

A paper was read by Professor W. M. R. French, Director of the Art Institute, Chicago, on "Painting and Sculpture."

A general discussion on the subject of drawing was participated in by Anson K. Cross, of the Normal Art School and Museum of Fine Art School, Boston; Miss Lulu McCoy, Art Teacher at the State Normal School, Huntsville, Ala.; Miss Lucy Silke and Professor French, of Chicago; Dr. James MacAlister, of the Drexel Institute, Philadelphia; Mrs. F. M. Holland and Mrs. Hicks, of Boston; Mr. W. S. Goodenough and Miss Rounds, of Brooklyn, N. Y.; Mr. Brown and Miss Selleck, of Indianapolis, Ind.; Miss Pascall, of Iowa; Mrs. Fuller, of Washington, D. C.

A paper on "Should Pupils draw from the Flat?" was presented by Helen Bondy, a graduated teacher, Vienna, Austria.

The discussions in the Congress on Art Instruction were reported by the Secretary, Miss Gertrude C. English.

LIST OF PERSONS ACCEPTING THE OFFICE OF HONORARY VICE-PRESIDENT OF THE DEPARTMENT CONGRESS OF ART INSTRUCTION.

AUSTRALASIA.

Arthur D. Riley, Art Director, Wellington, New Zealand.

David J. Hutton, Art Master Dunedin School of Art, Dunedin, New Zealand.

BELGIUM.

M. Cluysenaer, Drawing School, Brussels.

CANADA.

T. H. McGuirl, B.A., Drawing Master Ottawa Normal School, Ottawa.

S. P. May, Esq., Superintendent Mechanics' Institutes Art Schools, etc., Education Department, Toronto, Ontario.

George Harvey, Head Master Victoria School of Art and Design, Halifax, Nova Scotia.

FRANCE.

M. Cougny, Principal Inspector of Instruction in Drawing, Paris.

M. Ottin, Inspector of Drawing, Paris.

Mlle. L. Robin, Professor of Drawing, Orphélinat Prevost, Cempuis.

GERMANY.

Prof. Ende, Privy Councillor and Teacher Technical High School, Berlin.

Prof. J. C. Raschdorff, Technical High School, Berlin.

Dr. Schoene, Director General Royal Museum, Berlin.

Prof. Dr. R. Siemerling, Director Rauch Museum, Berlin.

GREAT BRITAIN.

ENGLAND.

Alan S. Cole, Official Examiner Art Division, Department of Science and Art, London.

Richard Glazier, Manchester School of Art, Manchester.

A. Wilkinson, Instructor in Drawing, London School Board, London.

ITALY.

Prof. G. de Bonis, Drawing Master Higher Normal School for Women, Rome.

NETHERLANDS.

J. D. Brinkgreve, Drawing Master Communal Higher Burgher School, Dordrecht.

W. B. G. Molkenboer, Director State Normal
School for Drawing, Amsterdam.

UNITED STATES.

DISTRICT OF COLUMBIA.

Col. I. E. Clarke, Bureau of Education, Wash-
ington.

Mrs. Susan E. Fuller, Director of Drawing in the
Public Schools, Washington.

MARYLAND.

Joseph M. Cushing, Baltimore.

MASSACHUSETTS.

John S. Clark, Boston.

L. E. Fay, Supervisor of Drawing, Springfield.

NEW YORK.

Gen. L. P. di Cesnola, Director Metropolitan Mu-
seum, New York.

Walter S. Perry, Pratt Institute, Brooklyn.

Edward A. Spring, New Dorp, Staten Island.

Prof. J. Ward Stimson, Institute for Artist-Arti-
sans, New York.

Frank Waller, New York.

OHIO.

Gen. A. T. Goshom, Art Museum, Cincinnati.

PENNSYLVANIA.

Dalton Dorr, Philadelphia.

L. W. Miller, Principal Art School, Philadelphia.

Samuel Wagner, Philadelphia.

VIRGINIA.

Miss C. E. Wills, Charlottesville.

ART INSTRUCTION.

DRAWING FROM THE FLAT TO LEARN THE TECHNIQUE OF REPRESENTATION.

BY HENRY T. BAILEY, SUPERVISOR OF DRAWING FOR THE STATE OF MASSACHUSETTS.

“Shall the pupil first take a course in drawing from the flat in order to learn the technique of representation?”

A PIECE of great representation—a work of art—has two elements: first, and of supreme importance, a *motif*, a spiritual essence or life of its own, born of the thoughts and feelings of the artist; and, second, an *embodiment*, an expression of this spiritual life through forms appreciable by the senses. The *end* is the re-creation of the artist's thought and feeling in the mind of the observer. The *means* are sensuous forms and colors. The *medium* may be pencil, pen and ink, charcoal, water-color, oil-color, or pastel. And the *technique* is simply the way in which the artist handles his medium.

Technique is largely the result of individual peculiarities and habits, like a man's handwriting; and just as an author's chirography is of little importance if legible, and his style of greater moment, and his message chief, so technique is of little importance compared with true form and color, and these in turn are subordinate to spirit.

But there is another relation to be considered. Just as the author's command of language, his knowledge of grammatical construction and of the laws of rhetoric, condition his expression of thought or feeling, so upon the artist's power to embody his ideal in sensuous forms depends his power to re-create his ideal in another mind. In other words, the spirit finds its most complete expression and best secures its end only through adequate means. The ability to draw truthfully is therefore prerequisite to the complete and vivid representation of ideals, and technique assumes importance in so far as it affects the truth of the drawing.

While the final results of drawing in the public schools may not rise to the dignity of great art, if genuine and vital they will have the two essential elements of such art; namely, spirit and adequate form. Our course in drawing will then make provision for two related lines of work: one whose end shall be to develop *thought* and *feeling*, the other whose end shall be to develop power to *adequately express* thought and feeling.

These two lines of work we may call, for convenience, (1) illustrative sketching and (2) pictorial drawing.

In the past we have neglected illustrative sketching, but we are now beginning to realize its meaning and its value. In every crude line and misshapen form of these first sketches of little children we find thought and feeling—spirit forcibly expressed. Shall such work be suppressed because it is inaccurate and crude? It has been suppressed, but we are slowly learning to see that the individuality which so manifests itself is a precious gift of God. Such expression must be fostered. The children should be encouraged to illustrate lessons in language and number, reading and nature study, geography and history. They should have sketch-books and use them constantly, the one aim being expression of life and motion, of thought and feeling. There is certainly no place here for copies; the technique at this stage is not of the slightest consequence.

But suppose this illustrative sketching to be continued. There will come a time when the spirit will demand a more complete expression. The diagrammatic sketches will no longer satisfy; straightness must be expressed by a straight line, roundness by a circle; boxes must look hollow, and houses must appear substantial; we must be able to see down into a flower-cup and up under an umbrella; a horse must look like a horse, and a man like a man. The power now demanded, that of truthfully representing such objects to embody ideas, is acquired only through long-continued practice *under guidance*. Alongside the illustrative sketching, then, should be a definite, logical, well-graded course in pictorial drawing, whose end shall be truthful expression of form.

Now forms may be expressed in different degrees of completeness: in outline, in light and shade, and in color. But while color perfects the picture, in representation as such, it is of least importance. Its self tone seldom appears to the eye; it changes in value with every change of light; it appears different from different points of view and from different distances. Light and shade are of more importance; they reveal solid form, and express character of surface; their effects are more constant. Given a light on the object, and its shadow may be determined scientifically. But outline is of chief importance; it is an essential and permanent element in every object, fixing its form and character; it is fundamental, conditioning all other effects. For this reason the wise Frenchmen say: "If a person can learn to draw in three years, he can learn to paint in three months." Because of the value of linear drawing to express the underlying truths of form, we find to-day a score of sketches and drawings, studies by the old masters, to one of their finished paintings.

It now becomes evident that outline drawing should take precedence in the lower grades of schools, and that its end should be expression of *truth*. No glow of color, no effective chiaroscuro, can hide bad drawing. When pupils have been taught to tell the exact truth in outline, then and not

till then is it time to think about teaching how to represent truths of light and shade and of color.

A progressive course in pictorial drawing whose end is truthful expression must, of necessity, commence with simple truths and pass to the more complex. The order will be : (1) Truth of movement (one dimension) ; (2) truth of figure (two dimensions) ; (3) truth of solid form (three dimensions). Here technique *is* of some importance, for it may interfere with the expression of truth.

Illustrative sketching and pictorial drawing will react upon each other ; the expression will gradually improve in the one, and the spirit will gradually permeate the correct forms of the other. To some of us this seems like too laborious and slow a process to secure the desired result, but so far as experience goes it is the only sure process ; the result comes through vital growth. "That is not first which is spiritual, but that which is natural, and afterward that which is spiritual."

I have said that technique is largely the result of individual peculiarities and habits. This is true of bad technique when interpreted one way, and of good technique when interpreted another. In bad technique the individual peculiarities are almost always borrowed from another, and the habits are "tricks of the trade." In good technique the individual peculiarities are original and give charm to the work, and the habits are modes of thought. True technique has, then, a vital organic element. Can that be imitated, or obtained by copying ?

Because French pupils draw with charcoal and so make broad gray lines, some have insisted on whittling away only the wood of a pencil, and then flattening one side of the lead to make a mark an eighth of an inch broad when "properly" held. Having thus produced a characterless and wholly artificial line, they have proceeded to apply it alike to the representation of machine details and flower petals, potatoes and snow-flakes.

Could anything be more deadlly? Such technique is false ; it robs the drawing of truth, and annihilates individuality in the artist. The line should express character. Every object under heaven is not "all wool and a yard wide."

But suppose we agree that difference in character shall mean difference in line. Will copying another's drawing lead to an appreciation of such differences? How can it? Will copying external form give internal spirit? Any artist knows that it will *not*. He cannot make an accurate copy of one of his own sketches which shall have the fresh spirit of the original. The letter killeth—"it is the spirit that quickeneth ; the flesh profiteth nothing." In the work of pupils who have been bound to a drawing book, and in the productions of those who have learned "painting, in twelve lessons, for ten dollars," how often have we seen sickening proof of this! No embodiment of thought, no feeling, no spirit ; only servile copying of external form.

But how *shall* we teach the embodiment of spirit? We haven't to teach it. We can't. Our business is to perfect the *means* for such embodiment as soon as possible, and if we do not hinder the mind and check its activity by insisting on conventionality and mannerism, its vital force will permeate the drawing as the Divine Mind permeates this universe.

"There is no great and no small
To the soul that maketh all.
And where it cometh, all things are,
And it cometh everywhere."

"As a man thinketh, so is he." If the pupil feels the exquisite delicacy of the petal, he cannot draw a broad gray line to represent it; if he feels the springing life in the leaf-stalk expanding into its glistening shield of green, his representation of it cannot be lifeless. If he thinks solidity when he represents an object—if while he draws the outline he sees the drawing as a reality in space, with its three dimensions—his pencil will somehow represent his thought (unless he is required to hold it three inches from the point, at right angles to the line, and at forty-five degrees with the paper!). If he thinks roughness as he draws the lemon, smoothness as he draws the apple; brittleness, transparency as he draws the glass, softness as he draws the head of cotton-grass, his drawing will reveal it. The mind informs the hand. No one can think delicacy and draw massiveness, nor think life and draw death. Nor can the artist draw life without thinking it.

But shall copies never be used? Shall not the pupil have the benefit of the experience of others before him?

Yes, by all means; give him every scrap of help available. Life is too short and too precious for each to tread all the weary way traveled by the race, and repeat all its disheartening experiments. Give the pupil abundant illustration of technique, but let it be of the best—good reproductions of the work of masters, not the cheap, inaccurate, and lifeless diagrams by some lithographer's apprentice. Urge the pupil to *study* them. He is not to copy line for line and dot for dot; he is to seize their spirit; he is to analyze them to discover the order in which the spirit unfolds its idea, and what forms it assumes. He may think the artist's thought, and, so far as he is able, may represent its successive stages of manifestation, reproducing if he can the same effect; but never, never is he to copy touch by touch. Such copying will never lead to art. Unless we can lead pupils to see deeper than the surface, our work will be worthless. Without the spirit a simple sketch reveals only the poverty of death; an elaborate drawing, only its endlessness. *With* the spirit, the merest outline glows with life, and a perfect drawing lives on when the cunning hand that made it is dust. The artist being dead yet speaketh.

DISCUSSION.

PROFESSOR J. WARD STIMSON, of the Institute of Artist-Artisans, New York : The kingdom of art, like the kingdom of heaven, is within you. The individual poetry or sentiment of each student must be respected and expressed. Therefore, art must be vital, not mechanical or imitative. "First the blade, then the ear, then the full corn"—that is the order of vital growth. *First*, then, represent vital beauty in line and motion. *Second*, represent vital beauty in surface (leaves). *Third*, represent vital beauty in solids (fishes, insects, birds, etc.). The inner spirit and structure must be revealed through the material.

In commercial materials represent, *first*, line in thread work—lace, etc. ; *second*, surface work—wall-paper, inlaying, etc. ; *third*, solid—clay, sculpture, carving, etc.

HENRY TALBOT, Superintendent of Manual Training in the State Normal School, Montgomery, Alabama, advocated the use of simple geometric figures for beginners.

MR. HOLMES SMITH, Acting Director of the School of Fine Arts, St. Louis, Mo. : In small classes, where individual attention can be given, drawing from familiar objects is best. The material should be that which is nearest at hand ; the flat work should be the study of the best works of the best artists.

IMPORTANCE OF THE ÆSTHETIC AIM IN ELEMENTARY INSTRUCTION IN DRAWING.

BY L. W. MILLER, PRINCIPAL OF THE SCHOOL OF INDUSTRIAL ART,
PHILADELPHIA.

UNDERLYING all the creative ability that exists in us is the artistic sense, the sense that perceives and comprehends the essentials of the character of things—that is, their ideal nature. It is to this sense of what things *ought to be*, that the appeal for recognition and appreciation of all human production is made ; and if it is worth while to make the training of the doing power a part of elementary education at all, it is clearly, as it seems to me, the main thing to nourish this central fire which is the source of all our power.

In demanding that the forms to be studied by the young draughtsman should be as beautiful as we can make them, I am claiming no more than this, that while the pupil is learning to represent things as they actually do appear, he should be cultivating the power of judging how they ought to appear, in order to have his sense of what is beautiful and fitting in the object itself refined and developed, as well as his eye trained to detect actual inaccuracies in his delineation of it.

I know how easy it is to regard the plea for beauty as narrow and partial and likely to be urged mainly by those who attach a certain amount of importance to attractiveness in the drawing itself. Please notice, then, that I put my case on exactly the opposite ground. I do not expect the drawings made by the pupils of any elementary school to be things of beauty, but I would have every attempt to make one a step toward

realizing what beauty is ; and I put beauty first among the qualities which should distinguish the objects that are to serve as models, mainly, or at least largely, on this ground :—Its message is so direct and of such universal interest, that I suppose its only competitor is fitness ; and without going into the old question as to whether fitness and beauty are identical or not, it may be urged that this appearance of being perfectly adapted to a given use or purpose is of more importance than anything else in the objects which are held up as models before the childish mind, and that recognition and appreciation of this fitness is the main thing. But appreciation of this kind is too much to expect of the child. It involves too much knowledge and too many considerations with which the young mind has not yet learned to deal.

To know whether a member is too heavy or too light, too straight or too much curved, for the service it is expected to perform or the material in which it is made, is something which requires investigation and experience to determine ; but to say whether it looks well or not, quite apart from these other considerations, is a comparatively simple matter, a matter mainly of feeling, something with which we are all fairly equipped at the start. And besides being simpler, this question of beauty is infinitely more interesting. Everybody cares for, and will make an effort to master the secret of, beauty. The child will try his hardest to draw, as to master in any other form of study, the thing that interests him, and in the long run nothing interests us so much as that which is beautiful. But my plea touches other matters than these.

To cultivate creative power is what we are after, whether the process is interesting to the pupil or not ; and I want to say in this place, as in all places, that the one word which stands for this original force, in whatever form it expresses itself in the work of human hands, is *art*. We cannot keep too close to the study of what this means and of all that it implies. To leave this out of our plan is to try to produce bodies without souls. What does it mean, this little word that is on everybody's lips whenever anything is done well ? For the story or the poem that is well written ; for the music that is well composed, or played, or sung ; for the play that moves or the address that thrills us, we have but the one expression, the same that we apply to the picture or the statue or the building that realizes in some sort our ideal of what such things should be—"It is a work of art." It is not without deep significance that this is so, and we cannot do better than come back again and again and try to find out in what the essential purpose and spirit of art consists. It is an old question, I know, but the last answer has not been given, and as the point of view changes, the question itself becomes new for the time.

What, then, is the secret of the charm that art imparts to so wide and varied a range of production ? Is it not simply and solely this—refinement ? Whatever refines our sensibilities and leads us to appreciate, and so to

demand, that material things should have a spiritual charm, this is what counts, and this is what art means. Let the child, then, from the first not only draw things that are as beautiful as you can make them, but let the beauty of the objects which he sees and tries to draw be the very first consideration. Not the last nor the only consideration, by any means—there are plenty of other things to be thought of by and by—but make this the first : to enlist his deepest interest and to quicken his most precious power.

For myself, I even follow this principle so far as to believe that the unconscious influence of beautiful things which the pupil habitually sees, although he may not be able to draw them at all, may be and often is worth vastly more to him as a means of education than any amount of practice from objects, and by methods in which this artistic interest is wanting, could possibly be. But he should try to draw them, too, and in the right way, the way, namely, that leads him to get the most out of them. For this, of course, is what I mean by the artistic as distinguished from the mechanical method. You may study a given problem or draw a given model either way ; that is, you may go about it in the right way or in the wrong way. It is not altogether a matter of choice of materials or of the processes employed. So-called mechanical drawings, that could only have been made by the aid of instruments, are often thoroughly artistic, while those made without such aids are often enough dull and mechanical to the last degree. No ; it is something deeper than this, something that concerns the point of view of the draughtsman himself.

And here we touch, I think, the really serious difficulty that the teaching of elementary drawing has to encounter, the difficulty of providing the teachers and the environment that are likely to promote the aims that I have indicated as essential. It is the difficulty of doing this that gives rise to the more or less ingenious substitutes with which the market is flooded. Never in my experience as a teacher have I encountered anything more pathetic than the eagerness of a constitutionally incapable person to acquire some trick of the trade, or some certificate of graduation which may enable him to command a position in which he can appear as a teacher of the things he does not know. And the devices that have been invented to help him out by giving a semblance of reality to his claim ; the paces he is put through in so many “normal” courses ; the “results” he has to show at the end of them, and the “methods” which he learns to regard as of more importance than principles—all these are just what might be expected.

It is not my purpose to criticise in this place any of these substitutes for the real thing in the teaching of drawing—substitutes which I am afraid are far too common and occupy far too many hours that are supposed to be devoted to this subject ; but I think it is right and even important to remind my hearers of their existence, and, as it seems to

me, of their danger. For the study of drawing is really a much simpler matter than we seem to think. There is an object or a pattern that is simple and interesting. Look at it, and see if you can make a drawing that will recall its appearance or convey some notion of its form and character, some idea of its proportions, some hint of the grace that is in its lines, if there is any grace there. Until you can do this, no matter how old you are or how long you have been at it, it will not be of much use to try to teach you the historical styles, or the making of working drawings or "geometric views," whatever that may mean; you need not bother your head with perspective, and all the original designs you can make will amount to nothing at all, or next to nothing.

To draw a thing well is to convey by means of a drawing a fair idea of the qualities that distinguish it from other things, to portray its character, to emphasize and celebrate, if you please, the essential truths on which its appearance depends. This means, I think, that the object studied should have a definite and distinct character to begin with; that it should not be commonplace or uninteresting, but should be something whose appearance would seem to deserve this kind of perpetuation and celebration; and, as I have already tried to show, it seems to me that the one quality whose embodiment in all sorts of available objects for study is freest from technical or other complications, and whose message to the mind of the student is likely to be most direct and most universally profitable, is beauty, and I believe there was never a time when the duty of proclaiming this kind of truth was greater than it is at present.

The tendency to exalt the commonplace, to celebrate the insignificant, is one of the most striking faults of the art of to-day. It will bear repeating on all sorts of occasions that it is our duty to "love the highest," and that it is the business of art to help us cherish noble ideals. Now the opposite of all this in drawing, as in all sorts of craftsmanship, is the mechanical habit. It is this that is to be dreaded and discouraged. Please do not misunderstand me. I am not saying anything against mechanical trades, against the use of tools and instruments of any kind. I am speaking of that habit of mind which, for want of a better term, we call mechanical, because, like the work of a machine—however accurate, and even delicate, it may be—it is not self-directed, and its product is not the embodiment of an original conception.

If we abandon or neglect the art idea we are pretty sure to pin our faith to the mechanical one, to attach undue importance to mere accuracy and to qualities that can be tested by rule and level. This habit cramps the mind instead of expanding it; tends to make it timid and dependent, to rely on precedent and authority instead of seeking original sources of interest and power. But if the merely exact and mechanical is to be objected to, the merely natural is quite as carefully to be avoided; and perhaps, on the whole, the grossness of nature-worship is more to be dreaded

than the dullness of the mechanical habit. Moreover, natural objects are apt to present much greater difficulties to the young draughtsman than the severe and winnowed types that have come to be known as classic because the taste and experience of the ages have approved and accepted them.

I feel sure that the best models that we can possibly place before the young student of drawing are the well-defined forms of classic ornament and idealized nature which have constituted the treasures of art ever since it began to be, and which will remain the true standard of culture and refinement by which the product of the ages that are to come will certainly be tried.

DISCUSSION.

PROFESSOR W. S. GOODENOUGH, Supervisor of Drawing, Public Schools of Brooklyn, N.Y.: The art education cannot commence too early. The most beautiful objects to be obtained should be used—cabinets and collections, good etchings, autotypes, and even paintings should surround the pupils.

HENRY TALBOT decried the practice of using any poor designs or styles because of the public demand.

PROFESSOR MILLER explained that it was necessary to effect a compromise between the ideal and the practical. The mind of the child is plastic and can be reached and molded. The mind of the manufacturer is biased by the public demand. Hence rococo design is his school.

MR. J. L. TADD, of Philadelphia, asks whether we shall give the sphere, the cube, etc., or shall we give them the leaves, the flowers, the things which carry the message? He advocated the psychological methods, perception to be cultivated first. Action must precede thought.

PROFESSOR ALFRED EMERSON, of Cornell University, said: Relatively all subjects are elementary, according to the advancement of the student. Some objects appeal to memories and are beautiful because of the memories.

DEVELOPMENT OF ART INSTINCT.

BY J. WARD STIMSON, EDUCATIONAL DIRECTOR OF THE NEW YORK INSTITUTE FOR ARTIST-ARTISANS.

THAT this epoch in our educational history is of supreme seriousness and dignity, relative to the great issues outcoming, no one doubts; but probably in no direction will the consequences be more momentous to the prosperity and happiness (not to say honor) of this country than in the development of its creative and appreciative *æsthetics*.

However superficially the hurried youth of nations for a time prefers

the pursuit of business, war, science, or self-amusement, it is the supreme testimony of history that the destiny of all great civilization is decided not so much by belly or brain as by the profounder power of the emotions and higher sentiments; in short, the ideality, poetry, imagination, and heart sensibilities of the race. So that the remark of Fletcher, "Let me make the ballads of a people, and I care not who make its laws," or the caution of Solomon to "keep the *heart* with all diligence, as out of it are the issues of life," comes home with force at this hour.

When all cruder activities and competitions have faded, the great art instincts and inspirations of every noble people have infallibly rescued its record from vulgarity and oblivion, immortalizing while concentrating the vital genius of that nation, so that we may safely say, not only of a man but of each fraction of mankind, "as he thinketh in his *heart*, so is he," or, in scientific phrase, "according to its intellectual convictions relative to its emotional faculties," so assuredly must it measure in the standard of fame as well as the actual competitions of finer civilization.

Art surveys her brilliant past, her growing present, and yet more glorious future, and, scorning apologists, exclaims of her spirit of beauty: "The Creator Himself is her defense, and the God of glory her reward."

My remarks shall concern not the worth of art to our school systems, but the worth of our present school systems and conceptions to essential art education (according as over twenty years' professional experience at home and abroad compel my judgment).

Indeed it seems to me that once to state the question of "*essential*" art education vitally and fairly would almost be to answer it. For in the deep and true significance, "national art" was never the vast accumulation of promiscuous and borrowed splendor, as when Rome ravaged Greece for official pride and plunder (to the ruin of herself), but was ever and essentially that mysterious and magnificent evolution of æsthetic *principles* and divine methods of self-manifestation employed by nature in expressing her *own* poetry, and variously felt, comprehended, and re-applied by nations, as different as Greeks from Japanese, to express their *own* organic genius, their *own* inspirations, their own delights in nature and discoveries of her beauty. This was ever quickened and qualified by their own national aspirations, religious and social ideals, concomitant poetry, industry and experience, giving the unique flavor of "*national*" character, historic significance, and local charm, constituting genuinely organic "*style*."

Now, this wonderful æsthetic life, that scintillates in every gem, unfolds from every shell, or bursts from every redolent flower; is omnipresent to guide the oriole building its nest, the Polynesian carving his paddle, the Pueblo weaving his mat, the Japanese his silks; and which has covered Ganges, Euphrates, Nile, and Rhine with miracles of national enthusiasm, was never the outcome of really borrowed or superficial culture, but flamed

from the fires of national and personal *experience*, as where, of Dante's ode, the poet writes :

“ Ah, from what agonies of heart and brain,
What exultation trampling on despair,
What tenderness, what tears, what hate of wrong,
What passionate victory of a soul in pain,
Uprose this poem of the earth and sky—
This medieval miracle of song !”

And you have only to consult the lives of such professional leaders as Phidias, M. Angelo, Cellini, Palissy, Delacroix, Jean François Millet, etc., to find how essentially this is true of all vital art work and workers.

Taine shows conclusively that far from art emanating as the product of servile imitation or speculative importation, the great arts of all ages sprang as the florescence of each nation's heroism ; as after Marathon in Greece, the new liberty of the Italian republics, the victories of Moors, the expulsion of Spaniards from the Netherlands, etc. So that while certain data and devices are occasionally exchanged (as between neighbors), yet these were ever refined in the alembic of national life ; and we ourselves are never interested, nor is true art generated, by plausible reproductions, but ever by what Goethe calls “*reconquered principles*” freshly apprehended, reassimilated, and reapplied to fresh, virile, organic conditions.

I regret to say that on all sides, among candid minds (corroborated by such able statements as John Lafarge's in the *July Century*, Charles DeKay's in the *Cosmopolitan*, and the New York *Tribune* letters from the Fair), strong objection is expressed to present art methods of education, in that principles are *not* properly understood or applied, an *organic* “American” art is *not* being officially developed or expressed (being left to isolated and sporadic struggle), while merely external and imitative methods intrude most injuriously into public and even professional schools, substituting sterile process for vital spark, veneer for reality, the borrowed plumes of other days, ideas, and even personalities, for the *sincere expression of the student's self* ; the tricks of trade, the pride and surprise of performance, the very process of photography (and, they add, *even* “*brutality and bravado*”) for fine artistic faculties and sensibilities proper, for subjective powers of originality, taste, ideality, and native feeling. In short, official systems are too *mimetic*, not *germinal*, and so must beget monkeys and not men !

I will not stop to inquire how far such conditions may have moral causes in the exploitation of art instead of its sincere love and life, or of any social, official, and even professional barriers of self-interest that block the way of national education, but I do join my hearty regret with theirs at the ridicule put upon American art by foreigners, and the chidings of even the truest and most disinterested foreign artists, that America should affect their manner, not *divine their souls* ; Millet himself exclaim-

ing: "I am never more classic than when *true to myself*," and still another French critic adding: "We foreigners like you best for what is sincerely 'yours'—not second-hand 'ours.'"

While some teachers blame the students or the times for this superficiality, and others excuse themselves by claiming "art cannot be taught, but technique alone can," yet all of us are doubtless conscious that art instincts are enormously influenced for good or ill by educational conditions and ideals, and should be sympathetically *befriended* (by parental teachers, not alien stepmothers) into wholesome consciousness and natural expansion before the media of expression can take proper meaning—just as we bring up our children into wholesome conditions of life, with legitimate motives and desires, before we expect of them perfection in speech or writing. These last are perfected into personal character by life-long practice, while the first are essential at the very start.

So that the great Blake's warning seems true, that "inappropriate execution is but nauseous foppery," as language when without inspiration, or words without thought; and we are wisely reminded that feathers spring from birds, not birds from their feathers (much less *other* birds' feathers, which constantly change to environment). So that tons of imported obelisks and thousands of alien technicalities and technicians are not worth the self-respecting, self-consistent, and harmonious development of national genius in sympathy with universal nature and her universal principles of beauty. I think, therefore, that we can honestly claim that any art system which does not cultivate *our* artists primarily, and somebody else's "technicians" secondarily, is like Hamlet without Hamlet, or Christianity without Christians.

Now, right here it is interesting to note the surprising charm and beauty of some of the more organic and instinctive work of our own Indians at the Exhibition, and the modest but magnificent art effects among Japanese, Javanese, and Arabian colonies in complete sympathy with themselves and nature, and, shall I add, the delightful suggestiveness of much of our own unused material, relative to more pretentious foreign imitations.

The earlier poems of Burns, when charged with the virility of his highlands and redolent with mountain daisies as with the color of his native dialect, were incomparably purer poetry than his later more labored and artificial English ones; even as the pith and point of Plato and Socrates were truer philosophy than the dialectics of the sophists. And even at this hour, when the divine spirit of old Japanese work is being broken and vulgarized by this very demon of cheap affectation and imitation, a sincere and faithful spirit lingers in the village schools, which during recess send the children to the river banks or carp pools, that on return they may draw *from memory* the fresh impressions of form, color, motion, and setting, before being taught traditional methods of adapting these

to specialties, so deeply do they feel the *love of country* and *divine the principles* that sustain "essential art." This at least is beginning "right end foremost," and must be ever the directest as it is the sincerest method.

My appeal would therefore be to turn at the start directly away from present mechanical, materialistic, and imitative processes, to the *vital* and *evolutionary methods of nature*, of all *best art*, and of the great and growing spirit of Froebel in the kindergarten—that we divert *not* our scholars at the start from home to foreign gods or the dead forms of other days (no matter how good for those days), but protect their freshness of inspiration; quicken, not pervert, spontaneity; strengthen new observations at new fountains of a new national power; develop personal *faculties* in selection, measure, arrangement, etc., by contrast, proportion, control, balance, harmony, etc., analyses and syntheses from our own superabundant and delightful nature; at least till *strong foundations* are laid in fortified *judgment* and *personality* that must grow the *wings of creative genius* far better than the mimetic or even coldly eclectic spirit.

This vigorous development of faculties should come for art, as for other education, *before they are enslaved to specialty* or *burdened with the incubus of endless precedent*; for so alone will later comparisons profit, that otherwise drop sterile upon suppressed and servile natures. With principle as a fulcrum and national genius as the power, students will readily open the nutshells of antiquated tradition and assimilate what of nutriment be within; or, better far, discover new nuggets of beauty and surprise in native soil, the poetry and history of their own hearts and hearthstones.

In closing, then, and specifically: As I find my children's home affection (when worth much to me or themselves) must spring from *genuine natures*, colored, of course, by temperament, and needing encouragement without trammel (save from a few principles of home regimen, or domestic facilities for effecting good intentions), so we make our Institute for Artist-Artisans, at New York, an art family, not an art machine.

All, on entrance, obtain a bird's-eye view of the field before them, so far as mere orderly and consecutive steps of growth are concerned, and the natural sequences or relations of thought in different departments (from central root to varied branches, leaving the trunk gradually, and kept in steady sympathy with all). For this we utilize much wall space for orderly examples, not of foreign productions, but graduated developments of *student faculties* and *unfolded principles*. These are accompanied by constant experiment, illustration, and reference to nature.

The metric powers of the mind are exercised, and those constant equations of number and measure studied that are so mysterious and universal. For this, every jointed reed, vine, or skeleton leaf may be an excellent and interesting example; the point relations and line divergencies in struct-

ural angles and inner axes, which constitute in space the abstract but essential framework of forms, and for which wire and glass, crystals, and even constructive models in cabinet-ware and architecture, help us.

Now, optical effects are noted of implied *motion*, whether rectilinear, rhythmic, circular, spiral, or radial. Geometric ratios are freely generated and played with for pattern (along the marvelous lines discovered by Japanese and Moors), in order to *quicken* student inventiveness and kindle fertility of imagination.

After which prime forms, types, and standards are considered, with their derivatives, *especially with reference to their inherent character and artistic influence in combination*. Now the splendid world of vegetable life is enlisted to aid us, with its convenient beauties of line and surface, and the principles of association revealed by serial or surface repetition, reflection, alternation, contrast, balance, etc.; with laws of the mind in unity, variety, congruity, harmony, etc.; with methods of progression, sequence, parallelism, tangency, revolution, expansion, etc., so closely allying art with life.

These *foundational truths of natural beauty are assimilated by all*, for the sake of *subsequent* individual power and freshness of observation, and to give time for the student's special tendencies or aptitudes to declare themselves, when they are differentiated *gradually* and pushed to maturity. The mind has already strength enough and capital sufficient now to enter the practical departments of line and surface design in wrought or twisted metals, jewelry, textiles, wall surfaces, and ceramics, till "low" and "high" relief is reached in clay decoration, casting, and carving. For the subsequent advanced sculpture, illustration, figure work, and general painting, the realm of higher animal organism becomes appropriate, and fuller comprehension of aerial perspective, anatomy, light, color, and costume is reached, with subtler appreciation of posture, character, artistic selection, and sentiment in expression, till technical processes are fully introduced, with special treatments or comparisons of other lands and times.

The art is shown to be in the *character* of nations themselves, and the aristocracy of art to be ever in the *spirit* and *not in the mere material* that conveys it.

PROFESSOR STIMSON supplemented his paper by the following remarks:

Life in everything is the source of inspiration. Life manifests itself by internal plan; the outer material is the embodiment of the spiritual plan. Each seed has its inner law of number, measure, form, motion, and color, which afterward may take texture from matter, and be affected by light and environment in setting.

The principles revealed by nature are taken up by great art, and are always capable of reappreciation and reapplication by every nation, which colors again these principles by local character and feeling.

No method of art teaching avails which only copies the outside, without appreciation of the internal life and individual characters. Our American art must observe nature's principles, then freshly express through them its own thought and feeling, and put beauty and character into all materials.

STUDYING ART—DISCUSSION.

BY E. F. FENOLLOSA, OF THE BOSTON ART MUSEUM (LATE OF TOKIO).

Should works of sculpture, after being studied analytically and reproduced in drawing, be modeled in clay? and should works of painting, after such preliminaries, be copied in painting by the pupil?

THE fundamental individuality of a work constitutes its greatness. Its belonging to a general class does not lift it into eminence. Beethoven's compositions are great because of some individual quality.

Art training should begin, not in nature, but in art itself. As well send the untrained person into the British Museum without a guide, as turn the novice loose in nature and tell him to produce works of art from contemplation of her beauties. It is a general principle that mind must be brought in vital contact with art before it can get anything vital from nature.

Five years ago, when the Japanese founded their school of art, they agreed to this general principle. The pupils must be trained in an atmosphere of art before they are put to work. They should study the old masters analytically and synthetically, always remembering that art is individual and type an abomination. Flippancy in modern European art is caused by a cutting loose from the old masters. Materialistic, photographic pictures, using any subject, no matter how inartistic, have resulted. Still, the best artists love the old masters.

In studying art, there are three dangers against which the student should be guarded:

(1) There is danger in the historic method of studying art, whether we consider painting, decoration, or architecture. If the young student is trained in each school—*e.g.*, Greek or Gothic—as a school, he designs in that particular school. Instead, his attention should be drawn to the excellences of the work of any and all periods, Greek, Egyptian, Arabic, Japanese. Expect him to create as well as the best of these, but do not limit him to the achievements of the artists of those periods.

(2) Do not study for the purpose of finding the most perfect works. The most instructive come just before the best. In the stage preceding the highest results we have all the elements, not worked out to their best. There is the greatest individuality in this stage. The world has a right to an inheritance of unlimited possibility, but the highest results limit this possibility. The work of the third stage, that of decadence, is the slave of the work of the second. The great works of the second stage cannot be vitally reproduced. Suppose we wish to study color, and go to Venetian art. We wish to know what has been done, how it was done, and what may be done. Shall we go to Titian or Veronese, even scraping their pictures, as some did, to ascertain the "How?" No. Bellini was solving the problem. We will learn from him and not from Titian and Veronese, who had solved it. In like manner, Giotto and Fra Angelico precede Raphael.

(3) Do not take either painting or sculpture by itself, leaving out decorative art. The artist should design industrials as well as pictures and statues. John L. Sargent draws inspiration from past decorative art as well as from other sources.

We are not compelled to end our study of the old masters by copying them. We want to hold them and the possibilities antecedent to them in solution. Add to the discipline of copying, the discipline of thinking out the possibilities into a different result. It may be an inferior result, but the discipline is good. Try recasting the picture with regard to form, line, or light. Accept criticism upon the visible result, and strength will surely result.

PROFESSOR GEORGE L. SCHREIBER, of Armour Institute and of the Art Institute, Chicago, congratulated Mr. Fenollosa upon having presented the speaker's views in a bolder manner than he himself might have done.

The fundamental principles of form and color which we would inculcate into the child exist in art. Art transcends science. In the history of art we naturally recognize the history of art education by its absence as such. Art progresses in guilds, with, at first, a few high-priests and court artists. Art is the vocation of the freeman. Types enslave. Raphael was the victim thereof; De Vinci the spirit thereof. Everyone may be a painter or a sculptor, but no one can be an artist except he have the spirit. Gérôme could never give us a rule by which to reproduce a condition. We see the long, strong lines in columns designed to support great weight. The caryatids seem strength itself. Cut them by flowing drapery, and the spirit is changed and weakness enters in.

(Professor Schreiber illustrated by drawing some of the figures and columns used in the Exposition buildings.) The Diana on the Agricultural Building has spirit, the spirit of moving on. Better, in drawing it, get a few lines that indicate the spirit than a line-by-line copy which omits the spirit.

MR. STIMSON said, in regard to a matter brought up by Mr. Fenollosa's remarks, that it is impossible to turn the wheels of time back so that we can place ourselves amid the possibilities of long ago. Our art is going on even if it is not recognized as art. Experiments had been made to ascertain whether pupils could recognize the effect of drapery cutting long lines, placing figures in the background. The results show that they detect weakness and distance from such concrete examples. In this line the use of the illustrations in the good magazines is valuable. Many of them are reproductions of the best works of old.

HOW PUPILS SHOULD STUDY AND ANALYZE WORKS FROM THE GREAT MASTERS.

BY DR. ALFRED EMERSON, ASSOCIATE PROFESSOR OF CLASSICAL
ARCHÆOLOGY, CORNELL UNIVERSITY, ITHACA, N. Y.

Thesis: "The pupil should study and analyze a series of works from the great masters, describing in language in the form of essays the general theme and the methods adopted of making the work of art tell its own story, the technical difficulties and successful devices of the artist in completing his work of art."

THE speaker began by describing his attitude toward the given thesis as one of qualified assent. However lofty a view we may take of the heart and the soul, it is absurd to lay upon these deeper centers of life burdens which the muscles and the senses are able and willing to bear. Hence, in view of the increasing complexity of modern life and education, the great importance of training what the short-sighted philosophy of the eighteenth century termed the lower faculties of mind and body. We daily see that the sense of hearing and the muscular skill of touch carry the mechanical burden of complicated musical performances, while the unloaded mind gives itself entire to the higher problems of musical expression. Let a boy be accustomed, say, to bisect angles by eye, or to judge the trueness of straight and curved lines by thumb, and his geometry will not give him brain fever.

The Prussian military system, so little understood in this country, is a splendid antidote to the over-speculative habit of the German mind and the relatively sedentary proclivity of the young German body. Our newspapers have recently found out that for arresting attention and conveying accurate notions of material objects a single illustration outweighs a ton of descriptive letter-press. The student of Greek who will memorize a hundred lines of Homer, the student of Latin who can remember and recite aloud ten odes of Horace, may safely reserve his study of classic metres until he reaches Sophocles and Terence. The recommendation that the student of art learn drawing, painting, and sculpture directly from nature or by imitation of good models is along this line of faith. Nevertheless, just as there are processes of thought and states of

feeling which words do not convey, or which the language of sensuous media conveys and carries home much more effectively, there are also forms of artistic thought which can be followed and set forth in language. We could go further and say there are artistic productions which require such exposition. The artist may have addressed a public supposed to know and feel facts and emotions not common to all mankind. Most of the famous sculptures of antiquity, many of the admirable religious paintings of the Italian Renaissance, have this quality; pictures of historical personages and events commonly have it outside of narrow, local limits of information and patriotic tradition.

Again, there is a legitimate field for exposition where an artist has struggled to express emotions, to depict occurrences to which the poetic muse has given a more intelligible form; that is to say, a form more subject to step-by-step analysis. Some of the pictures of the English pre-Raphaelite school have this quality. Shall the pupil wait until he can copy all the masterpieces before even considering their import? This road to the enjoyment and understanding of the more difficult and complex works of art is plain, but too long.

The speaker here referred with feeling to his own early efforts in modeling the ordinary clay of the roadside into semblances of toothsome confectionery little appreciated by his elders, and in drawing upon his slate his own particular breed of horses, whose convenient virtue it was always to conceal their off legs behind their near, so that the artist was often compelled to deliver brief explanatory lectures to unintelligent onlookers; pleading guilty also to leaving several "complete courses of drawing" uncompleted for the allurements of china painting, which the fact of the work being so erasable before and so indestructible after firing, with the additional circumstances of its being its own frame, and of the ease with which a large amount of it can be stowed out of sight after completion, stamps as the ideal artistic exercise for amateurs. The speaker ventured to suspect that his aggregate effort in practical art study exceeded the average record of the unprofessional student. Yet it was clear that but a minimum basis for critical studies, none for a critical judgment of masterpieces, and no faculty whatever for the successful reproduction of them, had been attained.

The appreciation of the contemporary public being the postulate and only working basis of normal artistic production, it is of every importance to educate the actual and prospective public as well as the artists. The relatively untalented, the preoccupied, and the adult whose minds are more plastic and docile than their fingers, are not a negligible quantity. Their artistic education must depend either entirely on their reading speculative discussions such as, for example, Schiller's series of essays "On Pathos," "On Charm and Dignity," "On the Sublime," "On Limitations in the Use of Beautiful Gowns," "On the Cause of Pleasure in Tragic Subjects," "On Size and Space in Aesthetic Estimation," "On the Aesthetic Education of Mankind," together with the more popular illustrated manuals, or on training under competent guidance in accordance with the idea of the proposition formulated in the thesis. For, in the words of Schiller himself, "works of the imagination have the peculiarity of not permitting idle enjoyment, but of stirring into activity the minds of those who contemplate them."

In conclusion, and on the basis of his own experience as a teacher of aesthetic criticism, in its necessary conjunction with classical archaeology, the speaker contended that there was danger, through an excessive emphasis of the great masterpieces, of overlooking the immediate needs of beginners in critical study.

To do justice to the great masterpieces passes the power both of language and of the untrained mind. There is an absurdity in commendation of Raphael or praise of Velasquez from an immature critic. Also, the great masterpieces have been too much commented to serve as a natural basis for the formation of independent opinion.

In his own work with advanced college students, of whom it is fair to expect some

knowledge of classical mythology and of Greek and Latin literature, the speaker prefers to use specimens of relatively inferior artistic perfection as the subjects both of *viva voce* interpretations and of carefully prepared essays by pupils. Not the frieze of the Parthenon, but some Roman sarcophagus adorned with some exploit of Castor and Pollux. Not the painting of Helen of Troy by Zeuxis, even if it existed, but some episode of the legend of the Argonauts as figured on an Attic urn of terra cotta. Not the sculptured group of Laocoön and his sons in the toils of the serpents, but rather the Apotheosis of Homer by Archelaos of Priene, an elaborate bas-relief of small artistic merit, but a piece after the conscientious study of which the pupil will understand something of the Grecian system of allegory, and will recognize the figure of any one of the nine Muses at sight when he meets it elsewhere.

Early productions of Greek art before it had outgrown the ungainly stage are often of great educational value on account of the presence even in them of a sound decorative instinct often missed in the most pretentious modern work, and by reason of the imaginative quality infused into compositions sometimes very complex, which a dominant simplicity of idea saves from the reproach of confusedness. Of this the famous François vase in the Etruscan Museum of Florence, signed by two Athenian potters of the sixth century B.C., presents an excellent example. Its one hundred and forty-one painted figures of gods and men, forty-nine of horses and mules, twelve of centaurs, eighteen of pygmies, fourteen of cranes, sixteen of other animals and monsters, or two hundred and fifty in all, reduce themselves, aside from the decorations of the handles, to eight mythological scenes and one ornamental band, disposed in six stories, one on the foot, three on the body, one on the neck, and one on the lip of the amphora or crater. When the attention has once been called to the symbolism of the tree of life guarded by griffins and the carnivorous animals devouring other wild and tame creatures in the ornamental strip, the mind acquainted with the rich store of Greek heroic legend readily disposes all the scenes—the escape of Theseus and his companions from the Minotaur, the destruction of the centaurs, the slaying of the Calydonian boar, the funeral of Patroclus, the wedding of Peleus and Thetis, the parents of Achilles, the return of Hephaestus to Olympus, the murder of the Trojan prince Troilus by Achilles himself, the battle of the cranes and pygmies, and the sundry minor compositions on the two flat handles—under the fundamental opposition of Life and Death, so constantly and suggestively contrasted one with another in the vertical and horizontal distribution of the painted scenes. And thus the lesson of simplicity even in complexity, which invariably characterizes the highest art, is inculcated.

Many early Italian paintings may serve equally well to teach the compatibility of highly imaginative art with a low degree of technical proficiency, and this without the relatively costly processes of reproduction by which alone the finer artistic qualities of the great masterpieces are adequately reflected. But a generous use of the stereopticon, and, for less ephemeral illustration, of cheap but charming photographic blue-prints from standard pictures and sculptures, such as the speaker is beginning to prepare with the help of the photographic laboratory of Cornell University, does away for masterpieces also with the smallness and meanness of the trade woodcuts which were until recently, and are largely still, the agony of the teacher in the attempt to acquaint classes with the history of architectural, pictorial, plastic, industrial, or decorative art.

METHODS OF ART EDUCATION FOR THE CULTIVATION OF ARTISTIC TASTE.

BY J. M. HOPPIN, PROFESSOR OF THE HISTORY OF ART, YALE UNIVERSITY.

ALTHOUGH the forms of art are in the mind, it is their expression which makes them art. The artistic faculty itself lies undeveloped until it is called forth by effort and training like any other faculty. Very crude, indeed, are the beginnings of all knowledge, and so of art. It is interesting to observe, in the practical workings of an art-school where pupils of different sexes, tastes, and occupations are gathered, some of whom perhaps did not have, at first, the consciousness of possessing the artistic faculty at all, how by earnest and patient cultivation of their powers they develop skill in drawing. They find something inspiring in an effort directed to an artistic end, something in the way of freedom which makes it genial and joyful work leading to constant satisfactions. And no pupil seems to be utterly incapable of artistic improvement, so that I, for one, am inclined to the belief that though all cannot become artists in the best sense of the word, yet that the human mind possesses, to a greater or less degree, the artistic faculty, just as it possesses the moral faculty and the knowing faculty, and which only needs training to develop it; and it is this which gives encouragement for the use of all proper means and methods of art education. I heard but recently of a person of fine artistic talent remarking that up to a certain period of her life she had no knowledge of art, no appreciation of art, no thought of art. But the artistic sense awoke in her while she was looking at paintings in the Dresden Gallery; she was converted as in a moment to the love of art, and felt that she had a talent for it. The power was there, and it needed but some strong impression of outward objects, or of nature, to develop it. "Man is artistic in the constitution of his mind. The æsthetic power of the imagination, when acted upon by corresponding objects in nature that are sympathetic to man's spiritual conditions, seeks to reproduce the forms of these objects. The mind's susceptibility to be impressed by the world of nature through the organ of the imagination, which not only receives but imparts impressions of objects, since it is full of energy and creative power, is the mind's function of form; and if the imagination works simply in order to body forth the form of things as an idealized imitation, to interpret nature in all its forms, it works artistically, and its products are what are termed art."* But, practically speaking, perfection in artistic production is rarely attained, and, if at all, it is attained through imperfection, as is

*From an article on "The Philosophy of Art," by the writer.

seen in the history of art with its slow evolution through the course of centuries. In Greek art there was a vast deal anterior to its best epoch, of unskilled effort following rude methods and false types; although Greek art, while it had these incomplete periods, marked, in some sense, the perfection rather than the beginnings of art, and, in this respect, formed a standard of taste for all time; as Goethe, whose authority in matters of art is almost infallible, said, that "we may take exceptions to some schools of art, but we are always debtors to Greek art." Goethe felt the influence of his own words. He was, intellectually, a Greek, because he aimed at truth in art, the truth of his own experience, and in this he was a master of style. He said that the poet should be ideal or something above reality, but, at the same time, he should keep his feet on the real, on truth and nature. To illustrate this observation in regard to the undying vitality of Greek art, the architecture of the World's Fair might truly be considered as something original, or what could be called ideal architecture such as never before appeared, like the architecture that we see in Turner's picture of "The Building of Carthage"—a purely artistic creation; and yet this World's Fair architecture was formed on old Greek lines as its basis, or its starting-point, of creative combination.

It is well to have a good illustration of a subject or a theory. Art education in France presents to us an apt illustration, and affords a living example of some of the best results of æsthetic culture, in which, notwithstanding its recent impulse in the direction of extreme realism that might be made a subject of criticism, there are contained principles which render its study profitable for us in a new land, as constituting, with whatever faults, the most thorough training-school that exists. French art education is connected with state education, so that it is less the product of individual minds than of the combined traditions of a continuous system, and the fact of its being a governmental school has given it a stamp, consistency, and authority that make it, technically, the center of modern art studies, exerting decided influence on other schools and nations, since it has taught the youth of all nations; and this influence is notably seen in the exhibition of pictures at the Columbian Exposition, in which the works of all the schools appear side by side, all of them being markedly pervaded by the spirit of the French school. The French, indeed, arrogate to themselves the name of modern Greeks, and justly so as regards artistic taste, though perhaps not so justly in other important respects of sentiment and poetic power; but the talent of the French for the organization of knowledge and for scientific system makes them admirable guides in matters of education.

There has existed an academy of painting and sculpture in France since the year 1648, with but a temporary suppression of it at the beginning of the first republic; and, indeed, nearly two centuries before that time a school of painting was founded by one of the French kings, which has

never been extinct under all changes, and which now bears the name of "The Institute of France," the immediate control of which is in the hands of the Minister of Public Instruction, and comprehends :

- (1) Established courses of lectures in all the departments of art.
- (2) The School of the Fine Arts (*École des Beaux Arts*), distinctively so called, with its members, studies, competitive courses, publications, and prizes.
- (3) The studios to which pupils are admitted under the supervision of the school.
- (4) The collections of casts, architectural models, engravings, and paintings, for purposes of instruction in drawing and molding.
- (5) The library.

This institution is subdivided into three grand sections, those of painting, sculpture, and architecture, and to painting the art of engraving is attached. No one is admitted without having satisfied the examination tests, and each year, in March and July, there are held examination sessions, and I will mention the subjects for admission to one department, the department of painting :

- (1) A design in anatomy (*osteologie*) executed *en loge*, or in a room by one's self, in two hours.
- (2) A drawing in perspective, in four hours.
- (3) An examination in history, oral or written.
- (4) A figure drawn after nature at one session, and after the antique at another, executed in twelve hours.
- (5) A fragment of a clay figure modeled from the antique, executed in nine hours.
- (6) An elementary study of architecture, executed *en loge* in six hours.

The curriculum of studies belonging to the entire course consists of history, anatomy, perspective confined to the needs of painters and architects, mathematics and mechanics, descriptive geometry, physics and chemistry, stereotomy and the drawing of plans, construction, the legislation of the building art, the history of architecture, ornamental design, decorative composition, literature, archæology, the history of art and æsthetics. Instruction in these branches covers the term of at least three and usually four years, proceeding from elementary and technical to more philosophical studies, and looking to the full equipment of the student in artistic skill and scholarly knowledge. In this educational course the prize system acts as a powerful stimulus. Prizes are given to those who have made positive advance in each of the departments, which prizes are adjudged by juries appointed by the governing board. The competitions for prizes in painting are open to all, and consist of a "*concours*" held each trimester in drawings after the antique, and a *concours* in composition and oil-painting, to take part in which competitions previous mention of good work is necessary. In addition to these

special courses, there are simultaneous courses of study and competitions in all the departments, so that the student of painting, for instance, may become acquainted with the elements of other arts, such as sculpture and architecture, which is a great advantage to a painter as laying a foundation of knowledge resembling the culture of the old masters, though in their case it was of a more unconscious sort created by their felt æsthetic needs. The prize system culminates, as is known, in the "Grand Prize of Rome," that, in addition to the brilliant distinction which it confers on the possessor, gives him a five years' residence in Rome, with an opportunity to travel in Italy and Greece, and six hundred dollars a year, with two hundred additional for traveling expenses; and for three years after returning to France he receives six hundred dollars annually, and a government office of inspectorship in some public work. This secures a good subsistence and labor untroubled by care in the more studious time of the profession; and the good fruit of it has been seen in the careers of many of the modern French painters such as Cabanel, Bouguereau, and Henner. Out of all the departments of the school, from thousands of scholars, an average number of two hundred and fifty, who have undergone the tests, present themselves yearly to compete for the crowning prize. These are reduced by trial to forty, who for a hundred days toil *en loge*, without helps or books. The subject for competition, as a general rule, is historical, and the few best efforts, with the winning one, are publicly exhibited. A room in the *École des Beaux Arts* has been devoted to the permanent exhibition of successful pictures since 1701, which, as may be imagined, is exceedingly interesting, not only as showing the productive power of the students at the close of their term of instruction, but the style of the period to which each student belongs. The Villa Medici on the Pincian Hill, where the French artists who have taken the prize reside, overlooks the city, and is surrounded by historic monuments, from the palace of the Cæsars to the church of St. Peter's—in fact, three cities rich in art, the classic, the Renaissance, and the ecclesiastical. This prize is confined to those of French birth, but the privileges of the School of Paris, of which I now speak, are open freely to youths of all nations (it is to be regretted that women are not yet admitted to this school), and here students enter the strong current of artistic life, feel the influences of the great masters, and work according to the methods which have proved successful in so many cases; as, for example, drawing from the antique, one of the most approved methods of the French school. The drawings, whether from the antique or from the nude, undergo criticism by the instructors twice a week. The pupils sit crowded together in the studios of the school, or in studios scattered over the city, each group copying the same model; and at certain times there take place more general "*concours*," which are presided over by the professors, assisted by outside artists of established reputation. This word "*concours*" describes the

practical working of the French School of the Fine Arts. It is the competition, the striving of numbers together directed to the same object. This, of course, implies some previous knowledge of drawing; but there is no instruction given at the moment, no one tells the student how to make lines or lay a shadow, and each pupil does the best he can, getting hints from one another, noting each other's progress, and struggling individually with all the force he has. It is severe work. It is a rough breaking-in process. But it is calculated to bring out what power there is. If a man have the making of an artist in him, it will surely find him. He is not to attempt anything pretty or elaborately finished in the "*concours*," but something real and strong. He is putting all the power he has into it under the tremendous pressure of competition. In addition to the courses which have been mentioned, there is also what is called "*plein air*" instruction in landscape drawing and painting, in which, outside of academic walls, nature is studied in the open air and fields. Light and atmosphere are studied. The artist carries the materials of his art along with him in his excursions into the country; and this is a good supplement to studio-work, exercising eye and hand in the use of color, transmitting to the canvas instantaneous impressions of light, mist, cloud, and scenery, and is, in truth, the salvation of the academic system, not waiting till education in the grammar of art be completed before nature herself is sought, but making the study of the classic antique and of nature go along simultaneously, drawing from both, adding to still life the real world, joining accuracy of drawing to the atmosphere and living inspiration of nature.

I have said enough to show that the French system is a broad one, that it is itself a liberal education, that art in France is on a high plane and is considered worthy of a place in national education, that it implies severe training and cultivation of the artistic taste to the most perfect degree, enlarging the pupil's mind and giving it symmetry in the development of all beauty. Still the art school, whether French or American, is, after all, but elementary, and subordinate to the individuality, culture, and character of the artist. The man is more than his art.

Whenever in art education the hand has come to be the instrument of the brain, executing its behests with ready skill, and when the student can do what he likes without thinking of the means, then his principal lesson is learned. This is about all that the art school can do for him. He is henceforth free, and can work out his own ideas. The training of hand and eye in drawing is, however, the basis of everything in art, since painting is but drawing in color. But to do this, to obtain the true image of objects, the copying of real forms with utmost truth and accuracy is necessary, and here long practice and careful instruction are required. Bad drawing is inexcusable. Gustave Doré, genius though he was, having despised the technique of the school, never could rise to first rank in his

profession. So of Blake, with all his sublimity. An impressionist artist, like the tone-painter Cazin, who deals in vague and rapid color effects, must still know how to draw, how to use his pencil and brush, before he can be a true artist. Monets, Renoirs, and Cazins are not made in a day, or by accident. The mastery of the tools of trade is the object of art instruction, for hereby the student is equipped for work. If he knows how to draw he will soon know how to paint, by a realizing act of the imagination in employing color as a means of more truthful representation in drawing; but the value of technical skill cannot be overestimated, and without it all is vain. It is true that the means are simple, but, once acquired, the applications are varied. Art, like nature, has few laws, but these must be understood in order that art may become creative as nature is. At present especially, when there is so strong a tendency to minimize the worth of careful technique, and to trust almost wholly to rapid methods of effect (although I gladly recognize in this a new power and a new epoch in art), it becomes highly important to emphasize the absolute need of thorough technique and to resist the temptation of wishing to be great without labor. Good artists are good draughtsmen. The great bulk, indeed, of Leonardo da Vinci's works consisted of drawings. This is true, too, of Albrecht Dürer. Burne-Jones's exquisite drawings, which are almost more lovely than his paintings, and which, like Raphael's crayon sketches, form the schemes of his pictures, are said to have cost him infinite toil; and every artist has been an indescribable toiler. For the execution of the Titanic paintings of the Sistine Chapel, Michael Angelo was reported by his contemporaries to have "ground his own colors, prepared his own plaster, and completed with his own hand the whole work, after having conquered the obstacles of scaffolding and vault-painting by machines of his own invention, and that only twenty months were devoted to this vast labor of making these paintings, which were composed not only on a vast scale, but are of wonderful delicacy and finish of execution."* Now while this tradition is somewhat disproved by recent evidence that has come to light, which leads us to believe that he labored at intervals for nearly four years upon this gigantic work, and was helped more or less by other workmen, yet, in the main, the story is true that he conceived and executed the whole himself with his own hand. He was master of the whole technique of art, and could do this.

Drawing has been called the alphabet of art, but it may almost be called its literature. The principles of drawing have reference not merely to scientific accuracy but to real life. They comprehend the law of perspective entering into all actual objects viewed in space. They have regard also to *chiaroscuro*, by which the round is represented on a flat surface, so that the light is seen behind and beyond the object, as in nature, and to

* Symonds's "Renaissance."

all those subtle refinements of light and shadow, line and touch, by which character is expressed, and, above all, the character of the human form, so as to bring out its life and its intellectual and spiritual beauty. Here drawing from the antique is especially useful to mold the taste under the influence of the best models, since Greek sculpture is the expression of the beauty in the Greek mind, and was, in this intellectual race, nothing more or less than its desire for perfection. Beauty was no weak sentiment at least in the best period of Greek art. The Greek line of beauty was a line of strength. It would be well if our students could draw from the original marbles instead of from plaster casts in whose white smoothness all life seems to die, though this is the next best thing; so that if the pupil, in addition to his drawing, could copy the statue in clay, analyzing the process step by step in the methods of the sculptor and following his lines, grasping his plastic thought, it were better still. No one can study a statue without pencil in hand, and how much more to the purpose if he can model it in clay, and thus be enabled to give an artistic critique of the sculpture before the class! In this way he should familiarize himself with the Greek masterpieces, steeping himself in their spirit, studying the ethical relations which formed their style and which correspond to the same relations in Greek literature, and discriminating clearly their historic epochs. At all events, nothing mediocre in sculpture and painting should be allowed in the art school, but only the best types, the masters of form and color, the great poets of art, to whom the beauty of nature was manifestly revealed. It is well, however, to remember that the training of the art school, though it may develop the artistic faculty, cultivate the taste, and confer skill of manipulation, does not make artists. This is something which belongs to mind more than hand. Andrea del Sarto, whose technique was perfect and who "could teach Raphael to draw an arm," himself felt that a higher love was wanting to make him the unsurpassed artist. The inspiration of genius set on fire by divine feeling makes the artist. I know that the motto of "art for art's sake" has been extensively employed as a word for the encouragement of students, in order to save them from the delusive claims of "high art," but it may be pressed too far, and as it is only at best but half true, it may really become a misleading axiom. Art has a wider scope than art for art's sake. It has a higher work than the mere skillful imitation, or representation, of any natural object in artistic form, in obedience to the mimetic instinct that is often slavishly serviceable to please men and flatter them, to decorate drawing-rooms, to make "counterfeit presentments" in portraiture, and to pamper the senses. True art does not set up a booth in Vanity Fair. The artist doubtless wishes to please, and he ought to do so; but he should aim at something better—he should be a teacher. His divine gift has an object beyond itself. He is to humanize and cultivate men. He lifts them out of the commonplace into nature

which is never dull, and into a world of new ideas. His personality enters into his productions, and in this no one can teach him. All that he is, all his acquisitions, wisdom, experience, and life, flow into his art. The more of a man he is, the greater artist. The broader his culture, the truer his art. He should be a man of wide and various reading. His education should go on widening, not being confined to the material world, but entering the world of ideas, into his own soul, until he grow to be an interpreter of natural and spiritual things. He is a poet. He comes to a sympathetic knowledge of the inmost laws of nature and spirit in which dwell the types and the soul of the beautiful. He is, in fact, the priest of beauty. This is a high office. Beauty is always truth, but truth is not always beauty. Beauty, I know, has various types, higher or lower, but the beautiful, truly understood, in all ages and forms, remains the highest principle of art. It may change its modes of expression. It may be earthly or heavenly. It may be realistic as Dutch, or idealistic as Italian, art. It may confine itself to form, or it may expand itself to embody color, atmosphere, light, until it grow spiritual, catching the most fleeting and delicate emotions of the soul. It may live in the joyous and nature-loving life of the ancients as in the lovely Neo-Greek art of the English painter, Albert Moore; or it may flourish in the life of Christian sentiment as expressed in church music and Gothic architecture, and exemplified by the solemn picture-frieze of the church of St. Vincent de Paul in Paris, painted by Hippolyte Flandrin; or it may be homely and everyday as in Eastman Johnston's Yankee village scenes, Frith's English watering-places and horse-races, Courbet's butchers' shops, Millet's honest peasants and silly sheep of Barbazon, and the haystacks of Monet which he bought and set up in his lawn in order the better to study their light and shade. But when art loses the sense of beauty, of delight in beauty, of the interpretation of beauty, of the characteristic and typical, of the art of the artist's own soul through the touch of the imagination which opens to him the whole world of nature, then art loses its vocation, and it might as well be science at once, with, perhaps, a flourish of decoration to amuse the fancy, and give up the chase of the beautiful and spiritual, the search of the "Holy Grail," till it sink into the material, into, say, the literalism of photography. Technique itself may be pressed too far, to the loss of spirit and imagination, even as there is a tendency now in music to strive for key-effect and the brilliant, for hammer rather than harmony, for noise in which poetry and the ethereal essence of art exhales. To render the delicate compositions of Chopin with the bravura of a military band is an end to all artistic expression of musical sentiment.

The greatest advance which I can perceive in the condition of art, theoretically at least, at the present time, is the growth of freedom of sentiment, and the recognition of merit in different and even dissimilar styles

of artistic production, springing from different conceptions of beauty, and varying as widely as the English and Japanese schools. The compliment which has just been paid by England to our architect Richard M. Hunt, for his share in the fine and original architecture of the World's Fair, is one evidence of this progress in catholicity and appreciation of the identity of the artistic principle under its varied forms of expression and diversities of æsthetic taste.

Another suggestion is, that art may be to a certain extent sloughing off its exclusive character and becoming more democratic; and this is not a change for the worse, but in the right direction. It is, on the whole, a healthful tendency. The best illustration of this, in the past, is Dutch art. "Holland owed her preëminence in art, as well as in science and scholarship, not to an aristocracy, nor even to a moneyed class whose inherited wealth led them to abstain from business. The men who sustained the painters and musicians, who fostered also science and learning, were plain burghers in the cities, merchants and manufacturers, men whom Queen Elizabeth called 'base mechanicals,' who all worked with their own hands, and by example or by precept taught that labor alone is honorable."* The World's Fair again affords the best proof of this change. Everything beautiful here is not for kings or rich men, but for the people—for popular instruction, inspiration, and delight. Seeds of thought are sown broadcast over the land. Millions of people walk these wide avenues as if in their own pleasure garden, and feast on the delightful fruits of intellect and genius. All branches of art are developed, and the more so because they have found their true aims and relations. Architecture forms a base for sculpture. Sculpture stands not alone but grouped as part and parcel of architecture, as it once did in Greece when the great national temples arose; and painting finds its right place in the common field of design and ornamentation. Large effects, as another has said, are gained, and there is an opportunity for great ideas to be carried out, for originality of artistic conception, and for adaptation to national type and character. Almost for the first time in our most modern civilization, the traditions of the medieval ages of conventional art have been broken into, and the art, especially the architecture, is democratic and in sympathy with the simplicity and breadth of republican ideas. Art is based on truth, and truth is as wide as the world. To confine it to a section, or to a set of ideas imposed upon it by a class, is to narrow its aim, which should be as broad as humanity. An English political writer says, "The things that are 'caviare to the general' often undoubtedly have much merit, but they lack quite as often the warm, generous, and immortal vitality which appeals alike to rich and poor, to the ignorant and to the learned." This is certainly true of art, or the truest art. It meets the highest culture, but

* "The Puritan in Holland, England, and America." Campbell, v. i. p. 84.

is based on the broadest humanity. I doubt, myself, if there be such a thing rightly as a school of art—the classic school, or the romantic school, or the impressionist school, or the German and French schools. Any form or type of art that is merely conventional, manneristic, learned, of a select school, party, or clique, and which does not appeal to the common emotions, reason and imagination, even though it may be the fruit of the highest and most exquisite thought, cannot last. It strikes no universal chord. It wants power. It is, for instance, wonderful that Benvenuto Cellini, creature of Pope and Cæsar, though full of genius, could have been able to make so good a thing as his Perseus, which, if unclassical, has endured. The true artist must have faith in man if not in men. He should not limit his gift to the service of Lord Tomnoddy and Mr. Cræsus. The crowds which fill the halls of art museums have eyes and souls, and they show this by their delight in, and appreciation of, good art. They can be educated, at least, to do so. Good work is not lost with the people, any more than in the middle ages. The beautiful public buildings of Orvieto, Florence, Cologne, and Bruges did not fail of their popular effect. But now new ideas have sprung up ; new faiths, governments, and civilizations have come into being ; and these must and will have their art expression, so that there should be no want of harmony between the artist and the people. There should not be, at all events, in a democratic country like ours, a servile copying of Old World forms. Of course, there is an historic continuity in the evolution of art, but our art should spring mainly from our civilization. It should have faith in Americans and America. It should be honest, original, and pure, not essentially aristocratic in spirit, but popular, though at the same time independent, and above the people, in order to command their admiration and respect, in order to be able to raise them above themselves and bring them out of the low, vulgar, and commonplace, the unloving and unlovely, and to ennoble them by the sight of the beauty of the human soul, and of that divine nature which is the common heritage of all.

While the Greeks and the Italians of the Renaissance “clothed every phase of their intellectual energy in the form of art, and it may be said that nothing that they produced did not bear the stamp and character of fine art,”* we, on the contrary, of this age and land, regulate our modes of thought by methods of science. I will not discuss the question as to which is the higher mode, but evidently something vital is lacking when either mode becomes exclusive. The present tendency in our country is decidedly scientific, to the exclusion of art and to the benefit of trade ; and the art we have is, for the most part, foreign. Our architecture (though a great improvement is discernible) is Italian or French, and so is our painting and sculpture. The Genius of Liberty that lights foreign-

* Symonds's “Renaissance.”

ers into our chief gate of entrance is a French statue, grand for its size. But for anything like great art, or national art, "great ideas common to the nation are essential." Washington, though he has been called an "English country gentleman," was an American through and through, the first great American republican, who let out every drop of monarchical blood in him. Our American heroic art has yet to be created, though its beginnings may be seen in the Trumbull gallery at Yale University, where Colonel John Trumbull, the painter of the Revolution, is better seen than at the Capitol in Washington. We have a heroic history as Hellas had; and the canvas of American art must be a wide one, sufficient to take in our history, poetry, faith, American humanity in its full action, our industrial energies, our pioneer life and adventure, the vegetation, the climate, the grand as well as quiet and familiar features of our scenery, our autumn foliage and sunsets, the ideas of freedom and equality, the new spirit as contrasted with the spirit of Old World civilization. There should be a love of country and a pride in it. There should be an honest enthusiasm in this new life, movement, and coloring. It is not commonplace. It is as nobly human as German or English humanity. It is better than the decayed Italian humanity that Michael Angelo had to mine in, for his models and thought. What were the contests of the Guelphs and Ghibellines, the narrow struggles of Florence and Pisa and the other miniature republics of Italy, compared with ours! We have had, and do now have, artists of fine genius, but no master has yet been born to reflect American history, American democratic thought, and American nature with force enough to originate a new school of American art, if that were possible or desirable. It is true that our standard of taste and life has been heretofore the useful rather than the poetic; and that the useful has taken the precedence let us not regret, for it is healthful and right that it should do so. Art is grounded on the useful; it exists in order to supply wants that are real, houses to live in, churches to worship in, costumes to wear, and also, above all, objects of the imagination and the affections to feed the higher nature. But American art will blossom when the aim of life for solely commercial ends is more lost sight of, and when the imagination has leisure to work, when the poetic stir is felt, when the love of beauty is awaked through ennoblement of the mind by culture, so that it can rise above the material into the spiritual, where dwell the ideas of beauty and truth.

DOES ART STUDY CONCERN THE PUBLIC SCHOOLS?

BY MRS. MARY DANA HICKS, BOSTON, MASS.

"All art study should aim first to familiarize the pupil with the chief types of the great works of art, with a view to cultivating the artistic taste."

WHAT I have to present on this topic will be mainly from the side of the public school. To all who are teachers in the public schools, or who are interested in the work of the public schools, this topic must have a great and abounding interest at this time. It brings us face to face with far-reaching questions. Does art study in any way concern the public schools? If so, into whose hands should the study come, and under whose direction should it be carried out?

In endeavoring to contribute something toward answering these questions, I would take this position: Art education is a legitimate subject for the public schools; the supervisor of drawing should stand not merely for the promotion of drawing, whether industrial, educational, or æsthetic, but rather for the promotion of art. I wish to make at the outset a clear distinction between mere drawing and art, which in its great content is the subject of which drawing stands as a language.

Art (I am speaking of formative art)—art has stood in the general mind as something quite transcending ordinary life, as something belonging only to the few, something to be purchased.

The great and intrinsic value of art has in one way kept the masses apart from it. Those who have produced works of art have too often struggled against indifference and contempt; too often they have given all that constituted the ordinary life, to attain art which is dearer than life. Thus art came to be considered as not belonging to the ordinary life, as something quite outside of and apart from the ordinary life, something into which ordinary souls could not enter, something to which ordinary souls had no right.

By slow degrees there arose in the minds of some a realization that as art productions had a money value, it might be that art could have a practical application; industrial art was recognized, and industrial drawing was introduced into the schools of this broad land, on the industrial basis. Everywhere the work of supervisors of drawing was to direct the drawing, mainly toward industrial design, as a means of improving the industrial products of the country, increasing the wage-earning power of its people, and adding to its material prosperity.

Then came the idea that drawing was a mode of expressing thought, and that hence it should be cultivated as a means of mental development. This was a great advance from the purely industrial view. The educational value of drawing became a subject of earnest discussion, and finally

has come to be generally accepted. This recognition of the educational power of drawing has led to a demand for its exercise. Therefore, drawing now stands in the schools mainly on an educational basis, and is regarded by educators as a means of expression which deserves the highest rank. Its value industrially is more fully recognized than ever before, while its value educationally is considered as far transcending its industrial value.

It is recognized that the body of the child deserves to be clothed and fed and housed; but it is still farther recognized that the mind of the child deserves recognition, and must be nurtured and given opportunity for expression.

Supervisors of drawing are leading in this movement, and are developing the child through his own observations and thought to free expression, and are, moreover, endeavoring to guide that freedom into well-recognized art methods. The hard, thin, black, wiry line, finished by the most painstaking effort to absolute uniformity of width and absolute want of expression, has given place to the broader, soft gray line—the true line of the pencil—varying in intensity, delicacy, strength, or emphasis, to meet the thought expressed, thus admitting the possibilities of the whole range of expression from light to dark. They are also leading more and more to the observation of the beautiful as the best means of elevating the expression of the children.

Recognizing the great value of drawing in the whole educational field, I shared in the presentation of an exhibit of work in form study, drawing, and color, in connection with other studies, made at the meeting of the National Educational Association at Topeka about seven years since. It was, I think, the first exhibit of this sort ever made. The work had then, as it has now, a great amount of crudity. The regular work in drawing was not considered as bearing upon the drawing in connection with other studies. The two were entirely divorced in the minds of the teachers, and one did not influence the other. This is a surprising result, but it finds its parallel in the fact that a student may be most carefully trained in the laws of perspective and the mechanical method of using them, and yet be helpless in the presence of a single object whose appearance to the eye he is required to draw. A student who had passed one hundred per cent. in instrumental perspective in a well-known art school came to me in great distress one day. She wanted to draw the interior of a barn, and she was very much puzzled to know whether she should make the beams overhead converge toward the upper edge of the picture or otherwise. Such things seem hardly credible to those who understand not only instrumental perspective, but also its connection with the appearance of objects.

I well remember with what a contemptuous dissent a modest suggestion to the principal of that school—that it would be better to lead the student to see the appearance of an object before studying the principles of per-

spective theoretically—was received. But things have changed since then, and pupils in the public schools now learn to see for themselves how objects appear in different positions, long before they know anything of the laws of perspective.

In our work of drawing we have passed through the industrial stage. We believe in the value of art as conducive to industry ; we recognize the money value of beauty, and that it pays in dollars and cents to be able to create a thing of beauty which shall be a joy forever. But we no longer look at this as the supreme end of our work.

We recognize most earnestly the value of drawing as a means of mental development, and we endeavor to promote its use in every possible way, at the same time surrounding the pupil with those influences from great works of art which will lead to the cultivation of artistic taste.

But we should have a still higher and broader end in view. We should stand for art. We should stand not for drawing as primal (for drawing is simply a means of expressing thought), but we should stand for observation of the beautiful, for thought induced by the beautiful, which shall lead to the expression of the beautiful according to the best known modes of expression.

Industrial drawing ministers to the outward needs, educational drawing ministers to mental development, while art education adds to these the æsthetic element (which is in its highest sense ethical), and ministers to the spirit, permeating and uplifting all life.

Art is the highest expression of the highest thought, and works of art are the outcome of that aspiration toward the best, and that creative impulse which longs to make the aspiration manifest, which belong to every human soul. Art education should, then, make distinct recognition of the art possibilities that lie not only in the artist but in every little child. Each little one that comes under our care longs for the beautiful and desires to express it. How can we show to him the beautiful, and how can we help him to express it? This is our great problem.

First, I would say, direct his observation toward beautiful things. Hold fast to the appeal of psychology, to give the child things which will interest him, but be careful to select from the things which interest him those which are of the highest nature. Selection—choosing the good—is one of the constants of development, whether in organism, in art, or in life, and the child himself will not only respond to but will promote this selection.

The following thesis indicates a proper course to be pursued with the pupil :

Thesis : The pupil should copy or make a drawing of the work of art which he has learned to analyze, and his exercise should be criticised by fellow-pupils and teacher, making clear the respects wherein he has failed to seize the motive of the artist, or to reproduce his (the artist's) device of representation.

At the same time that we lead the pupil to a selection of the type by an appeal to his own love of the beautiful, we will help him all that we can in modes of expression. We will not leave him to blunder and stumble, neither will we put him in harness and drive him forward, but we will lead him by pleasant guidance to such better things as we may know, and we will not be content to give him our limited individual knowledge, but we will place before him, as far as is in our power, the best that the world has done in art.

In looking through the field of graphic art we find that thought has found expression in three different directions, that there are in graphic art three different subjects which are to be made the basis of these lines of instruction—the subject of construction, which has as its highest phase the training of the imagination; the subject of representation, which has as its highest phase expression by pictorial art; and the subject of decoration, which has as its highest phase the expression of beauty in ornament. In all these subjects we have again to remember that drawing is merely a means of expression; that back of the drawing must lie the study of and instruction in the subjects themselves; but also that, having given the thought, we must help the pupils to the best method of expression.

In the subject of construction the mode of expression is purely mechanical and is unvarying; in flat decoration this is largely the case. In representation, however, this mode of expression varies, and there is large scope for individuality. The pupil may here stumble and blunder along until his eagerness and strength are exhausted, or the wise teacher may guide him to a better mode of expression. One of the ways of guidance would be for the teacher to tell the student that by emphasis here and by restraint there, corresponding to the qualities and relations of things represented, a better effect could be produced. Another way would be for the teacher to show by a few touches here and there—that is, by an example of her own work; this is a living demonstration that in many times is of great help. These two ways are of only limited use in the large classes of public schools.

Another way is to give to pupils good examples of rendering, that they may see how others have translated thought into expression by the pen, pencil, or brush. This is admirable because it brings the pupil into the presence of what others who have attained the control of their materials have done.

Still another way is to give pupils to copy good examples of rendering, that they may be carried still farther into the thought as well into the means of expression.

It must be remembered that the purpose of drawing from an object is essentially different from that of drawing from a copy, and that they do not at all subserve the same end. The purpose of drawing from an object is that the pupil may express his own thought concerning the object.

Drawing from an object should not, therefore, be made a purely external and mechanical thing of seeing from a proportion, but should be made a means of leading first to thought about the object, and then expression.

The purpose of drawing from a copy is that the pupil may learn the thought of a more cultivated mind and spirit concerning the object, and afterward the way by which he expressed it. Drawing from a copy, therefore, like drawing from an object, should not be a purely external and mechanical thing of seeing form and proportion, but should be made a means of broadening the horizon of the pupil and leading him onward and upward by contact with a broader and higher mind. All this will apply to pictorial composition as well as to rendering.

We cannot afford to lose any of these ways of guiding the pupil; we must hold to those which will cultivate his powers by leading him to know what others, with greater powers than he, have done, as well as by leading him to express his own thought in his own way. We cannot rightfully deny him the culture to be obtained through the endeavor to learn the thought of others.

Sir Joshua Reynolds was of the opinion that copying the work of a master in no way limited the original power of expression of a student, but rather led him to more individual expression and doing. In historic ornament the same will hold good as in the subject of representation, with this difference, that in historic ornament we are endeavoring to enter into the spirit of a nation rather than that of an individual. In every curve there is expressed the life of the nation and the striving after beauty—the reaching up and out to the æsthetic. So here more than ever is needed that realization of curvature and proportion which can be attained only through the endeavor to approach by drawing near to the thought and character of the nation. In pictorial art we deal with the individual; in historic ornament we approach the universal, and attain, at some degree, to types.

Just one word in conclusion: Art is not mere drawing; art includes and implies the thoughts back of the drawing.

WITH WHAT SHOULD DRAWING BEGIN?

BY MISS JOSEPHINE C. LOCKE, CHICAGO, ILL.

“Should drawing begin with light and shade, or should it be outline drawing for the first year or more?”

I SHALL present both sides. Outline drawing is a necessity for the sake of recording the facts and exact data of form, of geography, of history, and of science; it deals with the definite limitation of surface, and is essential to the expression of all construction. There is no other medium so useful for interpreting the details of parts and their rela-

tion to the general whole. It is the fundamental language of the industrial and ornamental arts.

There are two aspects of outline drawing. These are commonly spoken of as geometrical and freehand drawing. Geometrical drawing includes not only geometric problems, but projection drawing, linear perspective, and all line drawing that depends upon the use of instruments. Freehand drawing may be and is rightly used for a great deal of work that is not dependent for expression upon light and shade. All rendering of surface forms, such as decorative arrangements, copies of historic ornament from the flat, and the drawing of the several geometric views from objects, belong properly to the sphere of outline drawing; and where such subjects are used to begin the study of drawing, the only method that can be employed is outline drawing.

The question is still being agitated, Shall the study of drawing begin with the making of lines, the estimating of distances, and from flat copies, or shall it begin with the study of things by drawing the several geometric views and appearances of objects? If the first method be adopted, then arises a second division: "Shall the work begin with the ruler, or the free hand?" I quote from Colonel Charles Larned, of West Point, who is probably one of the ablest and most disinterested exponents of the first method. He says: "Because the line is an arbitrary convention, I am of opinion that first instruction should never be freehand from the object; the translation of form by the line is an artifice more difficult in freehand work, and more laboriously acquired. The young pupil should first be introduced to his medium and some of its meanings before undertaking to interpret with it. As a matter of training, I value the clean, well-defined line of the pencil or pen for beginners. The large charcoal or crayon line in the hands of the very young is uncertain and dirty; it condones inexactness of observation and result, at a formative period when habits are born."

Colonel Larned, it will be observed, speaks as a soldier, and from the standpoint of the technical or academic school, where the pupils are usually over fourteen years of age, when the period of childhood's emotions and instincts is past and the intellectual life of the individual is seeking to assert itself; in fact, Colonel Larned's instruction begins where the work of the primary and grammar schools ceases.

He continues: "The line is wholly a convention, the symbol of direction, extension, and limit; but in objective form there is properly no line, only the contrast of the different values of light and shade. The edges of intersecting planes of exterior and interior contours are not seen as lines, but as sharply defined contrasts of one value of shade against another. This is true of all form; an apprehension of it is purely a perception of contrast of light and shade. But line drawing exists, and is used for the purpose of expressing abstract thought; of measuring geometric relations and quantitative analysis of space; for the rendering of all that involves exactitude, precision, and accuracy of detailed feeling. This all must admit. It compels attention as no other means of expression does to correctness of principle, to accuracy of results, to habits of neatness and order, to forethought and forehandedness, to exactness of method; and it forces the realization of concepts with relentless precision."

While the geometrical line of construction has these well-defined advantages in clear thinking, it also has its limitations as an educational medium. Colonel Larned is careful to tell us that it does not stimulate to any great extent the faculties of vision, such as "form apprehension, form judgment, form memory, and form sensibility."

Picture writing or hieroglyphs is the earliest and most significant use of line drawing. Historically, with all nations and in all epochs of an art development, expression by line has preceded expression by light and shade. All primitive drawing simplifies and detaches objects, copying them in their own way, isolating and giving each its personality without any conception of pictorial relations. The study of chiaroscuro has up to the past few years been limited to the special school, with a professional trained teacher,

under artificial and not unfrequently strained conditions. In the world of art the Rembrandt school is a notable illustration.

Says Mr. Gilbert Hamerton, in his "Graphic Arts": "Practice in outline drawing involves a special danger to the student which ought not to be passed in silence. It concentrates his attention so much upon the contour of things that he ceases to perceive what is within them, and then he becomes the victim of a peculiar delusion. He fancies that because he knows the coast, he knows the country; the draughtsman is frequently innocently persuaded that the flat white spaces which his lines inclose actually contain the modeling which he vainly imagines for them."

Now truth of linear drawing is not the truth of expression by light and shade, any more than the truth of the fact is the truth of the appearance of an object. Expression by outline drawing is independent of the thickness or quality of the line employed; there may be all varieties used, from the poetic and artistic that suggests rather than formulates, to the most prosaic and exquisitely fine hair line such as is found in the drawing of pieces of delicate machinery. Giotto's celebrated line with which he astonished the Vatican, it is now universally accepted, was a broad, soft line drawn with the brush, similar to what one continually finds in Japanese art.

Mr. Hamerton continues: "The value of outline drawing has been variously estimated by artists. Painters hardly ever use it in its purity; they occasionally have recourse to it, but they do not keep to it. In this they are guided by a sure instinct, for outline drawing belongs to an essential, early stage in art, and is not compatible with those habits of sight and thought which are or ought to be the habits of painters; yet outline drawing may be practiced with advantage as part of every artist's education."

As to ruled lines, Mr. Hammerton notes the curious fact that while they are the basis of every architectural drawing, yet they are so disagreeable to the eye that a ruled line is inadmissible in any pictorial view of a building or street, for it destroys the picturesque effect. Yet the ruled line as a literal fact is the truer of the two; but it is suggestiveness, not literalism, that in this instance the mind requires; hence its discontent with the exact, prosaic line.

In "Modern Painters," vol. i., Mr. Ruskin sustains Colonel Larned's position by saying: "No form can be known to the eye without its chiaroscuro. In all observation of landscape, nature tells her story as plainly by her light and shade as by her form. Hundreds of people talk for one who can think, but thousands think for one who can see; to see clearly is poetry, prophecy, and religion all in one."

Nature is the mother and nourisher of the imagination; and when we see nature through the eyes of the imagination, we see her not in facts and bare outlines, but transformed and mediated by an infinite play of light and shade. Observation of mass is not observation of detail and limit; neither can expression of mass be rendered in the same way as expression of detail and limit.

The real question is, Should not both methods of observation and expression be cultivated side by side from the earliest beginnings to study drawing? Will not continual practice in a one-sided observation and expression leave the individual biassed and prejudiced?

There are degrees of seeing; there is a seeing that is purely physical, that sees only processes, operations, and limitations. To begin with expression by outline drawing is such seeing. But there is a seeing that is internal as well as external, that pierces behind the phenomena, the world of effects and operations, and feels the movement of the celestial order. Such seeing is directly dependent upon contact with nature, and seeks expression not by outline drawing, but by a feeling for the mass as the whole. Upon this observation of nature in masses of light and shade and shadow, and power to express the same, depends the art feeling of a people.

Indeed, there can be no fine observation of color in nature apart from observation of

light and shade, for all local color changes and varies as it receives the play of sunlight—now brilliant and intense ; again gray, cool, and semi-distant. The confusing and blending of the tints of color is a light and shade effect. A child who tries to paint a green leaf fails to get the effect if he does not introduce some reddish-brown or other pigment to indicate the play of light and shade.

From the above generalizations I am led to the following inferences :

(1) That man's geographical notions seem to have affected his artistic seeing ; so long as he thought the earth was flat, he imagined objects to be cut out of some flat material. The notion of modulation of surface, of elevation and depression, and its expression by light and shade, developed itself slowly.

(2) As man began to observe the mystery and variedness of nature, he thought to represent this by the introduction of light and shade.

(3) In art history the study and practice of chiaroscuro divides itself into two distinct epochs : first, as used in classic art and in the Renaissance ; second, as practiced in modern landscape art. The latter is based on direct observation of nature, and sees things more in a diffused sunlight, while the former was more artificial, and involved special and different conditions.

(4) A complete observation of form implies not only the seeing of outlines, but also the seeing of surfaces as possessing elevations and depressions, as rounding, nearing, and receding.

(5) Constant drawing in outline is quite capable of prejudicing mind and vision, and is only one degree removed in its danger from continuous drawing from flat copies ; it is very apt to leave the impression that the earth is "flat as a pancake."

(6) The child mind and child vision under twelve or fourteen are more akin to the artist mind and the artist vision than is the mind of the intervening years ; both possess that innocence of the eye that depends for its doing upon intuitive knowing and instinct rather than on intellectual information or the acquisition of technical skill. The only difference between the true child nature and the artist nature is that the child sees, moves, and does unconsciously, according to *instinct*, while the mature artist works and moves consciously according to *insight*.

(7) A determination of the question, "Should drawing commence from the beginning with light and shade, or should it be outline drawing for the first year or more ?" depends on the age of the pupils, the aim of the instruction, the conditions under which it is taught, and whether the work begins with first acquainting the child with his medium, or with form study from objects.

Under the age of the pupil, one must consider which comes first in order of development, the period of the intellect or the period of the instinct—the age of knowing or the age of feeling. Methods all right with adults and pupils over fourteen, may be dwarfing and repressing, not to say mutilating, to children from six to twelve. How do children see ? how do they feel ? What is their imagination busy with ? In what fairy-land do they wander ? It seems to me these are the questions that must determine how they are to be approached in any subject. From the concrete to the abstract, from the simple to the complex, cannot be true of mathematics and not true in other work also.

Under the aim of the instruction, one is led to consider if the object be to nourish and feed the general intelligence of the pupil, to help him find himself and his powers, or to impart information and train for specific ends. Is learning to draw the chief end of teaching drawing, or is it only a means to an end—the end lying outside and beyond, in the power to observe form, to recognize three dimensions in space, in the cultivation of the imagination, in the bringing one into close, vital contact with nature, and in developing an appreciation of the beautiful ? If we put power to observe and perceive form as fundamental and first, the question is, Can there be any perception of form apart from observation of light and shade ? Certainly not in an observation of nature,

where shadow is often more conspicuous than outline. Because chiaroscuro exists everywhere in nature, and because contact with and observation of nature is a necessity to the nourishing of sweet childhood's dreams, this question becomes a larger one than the mere learning to draw or make lines.

Shall we cultivate in the child an all-sided, all-round observation of nature as she is, in her dreaminess and mystery, or shall we limit him to a conventional, partial, and one-sided observation? Shall we put nourishment of feeling before acquaintance with the medium, and the enlargement of idea before exactness of expression? Now, the imagination is not analytical, it works in wholes; first, a dreamy vision of an entirety, of an indefinite something, frequently vague and chaotic. Only as it seeks to formulate itself does it become aware of details and fragments. Knowing of rules and the exertion of the analytical faculty with a child has a tendency to confuse his fancy in its flow. Dreams cannot be ruled or legislated for; they must be caught as they come, and caught each in its own particular way.

This power to catch dreams is the art quality; it is the faculty to both see and feel. The dream itself is the true art idea, for dream of poet, despair of artist, and childhood's visions are one in essence.

We use the terms "art instruction," "art education"—indeed, the word *art* in all its applications—very vaguely and loosely. We need to re-create the word in its ancient sense, when it stood for the expression of the inherent genius of humanity; when it really meant lee-way for intuitional feeling and emotion, and the material with the tool was but the vehicle for the thought. Were there no catching power in the individual to recognize a vision of beauty, or to glimpse the infinite, or to rearrange, invent, and adapt means to ends, then where would be the art? Did government or art-school knowledge of Maxwell's disks, or familiarity with the proportions of the Corinthian column, ever weave a Cashmere shawl or produce a Japanese vase? No! For both are born of an ignorance of light theories and of an absence of mathematical rules, but of an instinct so pure and subtle that all the technical teaching and skilled labor of modern civilization fails to do more than reproduce them.

A careful consideration of this subject must resolve itself into, What are we going to do while waiting for children to become intellectually fit for the special or technical school? Is it safe to continue leaving the period of childhood's dreams and emotions unfed and uncultivated? What can be done to inspire the masses, the children of the common people, with an interest in and an appreciation of nature, and of those works of art which embody the highest truths of spirit as comprehended by man, and so make life better worth living to every citizen? Is not this very much more than mere learning to draw and make lines?

DISCUSSION OF THE SUBJECT CONTINUED.

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IN answering this question we are forced at once to consider conditions, age of children, and the object sought. I was much impressed by General Walker's statement that the American people are essentially forced to a state of compromise to meet the peculiar situation thrust upon them at the present time—an enormous and increasing inflow of a foreign element, untrained and unskilled, and which presents a most serious problem to be dealt with, especially in our public schools. It is not, then, by many roads that we will reach Rome, but by one broad highway, where small differences of opinion, petty jealousies, and personal ambitions shall be thrown aside in the desire to do the best

possible toward the development of the child, and to overcome the materialistic tendency of the time.

If we take the matter up from the standpoint of the young child in the public schools, which is perhaps the best way to begin, we must admit that the most advanced thought and experience will demand little in the way of accurate expression for the first two years of a young child's life in school. Observation, thoughtful yet happy and free, should be encouraged, and expression in the way of drawing should be in a medium best adapted to the child's ability to control. I have tried various free-flowing materials, such as charcoal, paint, and even colored chalk, and found that the pleasure of daubing and scratching was of much more interest than the thoughtful rendering of sense impressions; to my mind productive of the same danger that one meets in science teaching, when elaborate scientific instruments are more fascinating than the experiment to be performed. While I cannot see the desirability in this brief life of passing through the barbarism of the race to find the child, I do believe that these first years are most important to start him on the road as a free individual.

Plenty of form study, a wealth of color, and a happy expression of himself, even in a crude way, upon blackboard and paper, will surely lead to this. And I am equally sure that even in these early days a wise teacher may begin to guide toward definite and thoughtful expression even in the child's freedom. Therefore art training in the public schools should stand primarily on an educational basis, and secondarily for technique. I said "wise teacher," and here I sigh; for the average teacher of the present day is supposed to be wise in all the studies pertaining to her work—and where has she been trained? Our country to-day needs hundreds of teachers' colleges, that the wise teacher may be possible.

Given more favorable conditions in the schoolroom—one direct light and not conflicting lights—a teacher capable of judging values and effects, and the rendering of objects in light and shade might be desirable at an earlier age than now seems possible. You know the bad effects of incorrect or coarse speech when not led as soon as possible into refinement and good method before such bad habits become fixed. For this reason I feel that license in the use of any material will thwart the very end sought.

In a technical school I would balance the outline, in which there might be an expression of the student's own conception of light and shade carried out to a greater or less degree, with the freest treatment in charcoal, presenting all the values seen. Here it is more possible to consider the individuality of the students, and if one has a hard, tight way of expressing, sees line in everything, with a strong tendency to the mechanical, losing sight of the poetic quality of effect, then that student needs a minimum of outline and thorough training in light and shade as expressed in values, using charcoal as the freest working material. On the other hand, a student who is inclined always to see masses, and looks at things from the painter's standpoint rather than the draughtsman's, is much helped to completeness of thought and vision to express in the purest outline with the fewest possible number of lines that will tell the story. The telling power of a really good outline drawing is not half appreciated.

There is a lot of nonsense connected with the life of art students and even artists, and their ideas of what art is. A person is none the more æsthetic or artistic (I am very tired of that word) for having a coat covered with paint, a soiled necktie, or a dirty palette. I remember a fellow-student who appeared one day, in our set of workers, when we were all ready to leave the studios, with paint on her bonnet strings. I protested that the turpentine bottle should be appealed to. But no; she marched forth more than ever satisfied that she wore the insignia of high art. That student was really directly drifting away from beauty, order, and fitness, the three essentials of true art. I followed her work later, and it never went beyond the mediocre—never beyond the bonnet strings. The beautiful, then, should be our ideal and as far as possible made a part of us—in life, character, and environment. Every unlovely thought, word, or deed has a reflex action more productive of harm to the source of its creation than to those whom it may be intended to harm or wound.

Forced back, as we are constantly, to present conditions in public schools, with children the pencil seems to be the most available means of expression, and a great deal more can be done with it than is often realized. Much, very much, depends upon the teaching whether rendering is really artistic and individual. For objects I like myself a basis of geometric form from which other work may lead out. These simple forms can be made interesting to the child and productive of much benefit. Through them the simple laws of perspective may be apprehended, and in a more natural way than by theory. The broad gray line is far more agreeable than a hard wiry one, and seems to lend itself pleasantly to the contour of geometric form, or simple objects. By broad gray line I do not mean an exaggeration of breadth or absolutely unvarying in width, but

the soft effect produced by drawing upon the side of a blunt pencil, the result being a transparency of effect somewhat in texture like a delicate charcoal line. Outline drawing is also valuable as a means of expression upon the blackboard, and the crudest work done in this way by the children is of far more value than ever so elaborate drawing by the teacher. With the best intentions possible, teachers entertain the children nearly to their mental death; certainly to the dulling of their honest effort to work for themselves. A teacher can get through simple outline drawings more expression of the child's mental standing, capacity, and growth, than in any other way. Not only in the regular drawing lesson, but by using drawing in the other studies. Pencil lends itself also to the schoolroom better than charcoal, because its conventions are already accepted. The freehand working drawing is a direct help in manual training, and aside from its possible industrial value, dealing as it does with foreshortening and not perspective, it emphasizes the facts of things as an offset to the delusion of appearance.

If suggestive effect can be obtained in light and shade with pencil, beyond the first years it undoubtedly would add to the interest of outline drawing; but there is definite danger here, dealing with such large numbers in a class, of too conventional rendering of the light and shade, and the recording of the teacher's observation rather than that of the child. Charcoal is not pleasing for line work unless handled with consummate skill, but is especially delightful in the rendering of full values. In the high-school light and shade should be a prominent feature of art training, and here as well as in the technical school I would balance the study of masses of effect in light and shade, with pencil, the latter leading to pen and ink.

In the early teaching of drawing to the child or adult we should not demand immediately accurate results, but rather, first, careful observation of proportion and relation, and the recording of ideas of beauty of proportion and relation, as far as possible in an individual way. If we could have a skillful and trained teacher to every ten or even twenty children in the public schools, how everything would simplify and our path clear! Then we could have the most delightfully naïve expression of each child's thought given in his own way, and yet guided to the best technique as well. But how to really build the basis for even an appreciation of what real art is, with these masses of children forced upon us, and the untrained, overstrained teachers who are held responsible for so much—this is the problem upon which we talk in circles and fail to solve.

The public must be educated to feel our good intentions, our struggles, and our needs. Boards of Education need educating, and we may yet be forced to put upon them some of the tasks of the ordinary teacher.

Why do the artists have such a hard time to sell their pictures? It is because even the moneyed people have not gone much beyond the gilded rolling-pin and the decorated milking-stool. The better the training of American children in true art principles, the better for the future of American art and artists.

Above all should we try to realize that art education is something more than utility drawing of any sort, or even fine art training. To the great public it is training the child to see beauty in common things, not vulgar common things, but the beauty about him, above and beyond him—the beauty of nature and of art. Tinkling devices that please for the hour will not do this; but it should come by unfolding the latent power of the child and the opening of his eyes to the glory of this world as well as the life beyond.

The influence of direct art teaching should go beyond the schoolroom as a beneficent presence in the child's thought, his view of life and things.

PAINTING AND SCULPTURE—DISCUSSION.

BY PROFESSOR W. M. R. FRENCH, DIRECTOR OF THE ART INSTITUTE OF CHICAGO.

THE thesis upon which I am invited to give my ideas is as follows :

Connected with the learning to model in clay, wax, or other material, the pupil should have a series of lessons on the limitations belonging to the arts of painting and sculpture, and discuss what subjects can properly be treated in sculpture, and what more properly belong to painting.

Upon the propositions that there are differences between the practice of the painter and the practice of the sculptor, and that it is necessary for the sculptor to regard these

differences, there can scarcely be more than one opinion. But as to how a knowledge of these differences shall be conveyed to the pupil, and at what stage in his career, are questions upon which there may well be a wide divergence of opinion. Upon this subject, as upon many others, I find my theories much hampered by the necessity of putting them into practice.

If I were not connected with the school of the Art Institute, open to the gaze of all men, I might, perhaps, work out a successful theoretical view. As it is, I find myself in the predicament of the Pharisees of old when they were asked to pronounce upon the baptism of John. If I say that there ought to be stated instruction upon the limitations of painting and sculpture, you will all say: "Why, then, have you not established such lessons in the Art Institute?" But if I say there is no need of such instruction, shall I not be despised and scorned of all advanced educators? I may say, frankly, that the idea of regular lessons or lectures upon this subject had never so much as occurred to me.

Our art schools are conducted upon an atelier system, in which the teachers are in immediate and frequent contact with all the students; and it is expected that in the course of actual practice the various problems of art will arise and be discussed, and receive such solution as the teachers may be able to give. Such questions as those proposed in our subject will not arise early in the student's course. He may begin modeling in the kindergarten, and *must* begin with very elementary practice, which has no relation to composition, but is directed simply to acquainting him with his material, and giving him mechanical control over it. The elements of technique must precede composition, and it would only introduce confusion to discuss advanced problems too early. In the present period of realism, however, there is a very possible danger that the students may be kept too exclusively upon the true rendering of the subjects before them and upon the technical treatment of the mediums, to the neglect of the more general, perhaps I might say of the more intellectual, qualities of the work.

Everybody who has to do with schools of academic art must be aware how much more willing the student is to remain before his easel and try to fix in charcoal or in oil the appearance of the statue, the living head, or the nude model before him, than to attend any kind of verbal lessons or lectures, however closely related to his profession. He thinks he is wasting time if he is not actually drawing, and I think this idea is rather encouraged by most of the artist-teachers. In our own school I despair of getting our students to lectures excepting at times when the models are not posing; and as the sittings are continuous from nine to twelve and from one to four (with sketch classes after four), it is difficult to find a time for lectures. In fact, we have held our lectures from half-past twelve to half-past one, and from four to five. I have sometimes seriously considered holding the class sessions from nine to half-past two or three, and devoting the rest of the day to class instruction, as is done in the Boston school.

The aversion of students to instruction of literary form I attribute to two causes: first, that named above, the extreme stress laid upon execution by the teachers; and second, the general dislike of mankind, in his native state, to intellectual exertion. Your ordinary art student will do anything to get away from exerting his head. He does not know it, and he fancies he is working very hard when he tries to fix the exact drawing and color of his study. And to do them justice, the better students do put themselves into their work. It is my opinion, however, that in most art schools we are in danger of falling into narrow lines of study, of confining ourselves to particular treatments and mediums, even particular points of view and sizes of studies, to the neglect of the more general study of composition. Hence, although I do not know of any art school in which there is distinct, stated instruction in the distinctions to be observed between sculpture and painting, it is easily conceivable that there might well be such instruction. It would no doubt best be given by the actual teacher of model-

ing, if he could be induced to do it. Ah, there's the rub ! It often happens that the man who models is wholly averse to lecturing. A sculptor of my acquaintance said : " I draw the line at lecturing." But if he had the subject distinctly in mind, he could easily tell his class all they needed to know. And this I suppose is what actually happens with the more favored pupils, if not with whole classes.

However the knowledge were conveyed, it could do a student of sculpture no harm to have his attention called to the fact that sculpture cannot do much with landscape or large accessories of any kind, and must be contented for the most part with the representation of animated nature, chiefly the human figure.

That there is something in the character of sculpture that prompts simplicity, so that numerous accessories, even if small and natural to the subject, are usually unacceptable, and the most effective sculptures have always been made up of very few figures, usually not more than two or three ; that the sculptor will do well to yield gracefully and cheerfully to the limitations of his material, and acknowledge that things possible in paint are not possible in bronze, still less in marble ; that the outline, or sky line, of the work of sculpture is of vastly more importance than it is in painting ; and especially that an immense difference between the conditions of sculpture and painting is introduced by the circumstance that the sculptor's work must look well from various points of view—must indeed compose well all the way round, if possible : all these things might very easily and quickly be communicated to a class by lecture or lesson, accompanied, of course, as all art lectures should be, by abundant illustration and exemplification.

If it be said that most of our students are in too elementary a stage to profit by such instruction, and that all their time ought to be given to acquiring respectable technical skill, I should be inclined to recall the fact that at least six of the young women in the modeling class in the Art Institute have been called upon in the last year and a half to produce ideal statues in connection with the Columbian Exposition, and it is proposed to put some of these figures into marble.

Art educators, and perhaps teachers of all kinds, have reason to be shy of fixed rules. The practice of the fine arts does not brook much definition and limitation, and it is dangerous to inculcate the principles even of Lessing or Winckelmann, because all theories go down before facts, and we no sooner get our rules well established than some clever fellow comes along and executes charming things in direct violation of them all.

A few years ago, for example, I suppose we should all have said that the dignity and elevation of sculpture made color inadmissible ; that the student would do well to follow those exemplars of all succeeding ages, the ancient Greeks, and leave the marble in its unsullied purity ; and we should very likely have suggested that the nudity of sculpture was, as it were, veiled and chastened by the absence of color. But the recent studies of the archæologists seem to establish that color was used in ancient sculpture much more widely than has heretofore been supposed, and some authorities think that all nations, the ancient Greeks included, who have used sculpture freely, have habitually polychromed their statues.

This subject has raised anew in my own mind the whole question how far ought lessons and lectures upon the theory and history of art and other scholastic subjects to be joined with art practice in our art schools. My own predilections are for a good deal of literary training, but I have not felt warranted in carrying out ideas, not founded upon experience, very fully and hastily into practice.

It has long been my wish that a student who spends three or four or five years in the Art Institute should carry away not only some technical dexterity, but something which would stand for an education, some cultivation of mind and taste which should answer in some degree to a liberal education. At present we are able to offer oppor-

tunities, but not to compel the use of them. The school lectures relate to artistic anatomy, perspective, the history of art and art education, the construction and drawing of the face and figure, and a variety of themes connected with architecture and decoration. The general lectures of the Art Institute, open to all students, relate to all manner of artistic subjects.

The library I regard as perhaps the best means of intellectual cultivation we are able to put before our students. It is wide open to them at all times, and already covers pretty well the ground of the theory, history, and practice of the fine arts. This year we add an immense collection of photographs, the whole publication of Braun & Co., of Paris, of carbon photographs or autotypes, which include reproductions of the important paintings, drawings, and sculptures of the principal museums of Europe. Dr. Holmes' remark that it is "great good fortune to a child to tumble round in a good library when he is little," is equally applicable to an art student young in his art.

The students also move constantly among the permanent and changing collections of the museum and the city. With these opportunities, and with daily intercourse with a score of accomplished teachers, a student must be stupid, indeed, who does not in four years acquire some kind of culture.

THE SELF-CORRECTING SYSTEM OF DRAWING.

BY MISS ANNIE R. OSBORNE MOORE, OF ENGLAND.

THE question, What do we mean by drawing? seems to me to have received so many and such various answers during the discussions of this Congress that it becomes necessary, for clearness' sake, to come back to it once more. And I therefore propose to read a few lines, the value of which, I presume, no one will call in question, as they are translated from the own words of Michael Angelo di Buonarrotti. These words seem to unite, and by implication to contain, all that is best in the various appreciations that have been laid before you, and they do away with the need of any further definition.

"The science of drawing or of outline is the essence of painting and of all the fine arts, and the root of all the sciences. He who can raise himself to the point of mastering it possesses a great treasure. . . . The power of drawing is so great that the artist can express whatever he wishes if he know how to draw. Art is herein sublime, that by it all the works of God may be represented, whether it be a bird of the air or a prophet. Thereto neither gold, silver, nor precious stones are needful, only a pen or a pencil. Perfectly to copy every object according to its kind—is not this, to some extent, to imitate God in His works?"

"That painter only can be truly accomplished who has a knowledge of all the other liberal arts, also of all the other manual trades in the world; so much so, that I sometimes think that there is only *one* art amongst men—that of drawing—from which all other human arts proceed, or of which they form a part.

"Examine all that is done in life, and you will see that even unconsciously every one draws, whether it be in the invention of new styles of dress or of building, or in drawing plans of vessels and of weapons of war. Drawing embraces everything from writing to the most remote origins of history; it is used for machines, for plans, for building bridges, for the ordering of battles and in strategy; to make evident the difference between nations by means of their various flags and standards, and to distinguish families by their escutcheons; so that in looking at all varieties of human work you will find each to consist wholly or in part of drawing."

It has been our aim to establish a simplified, practical way of studying drawing, by which we mean the truthful, graphic representation of form, with all its variations of perspective and of foreshortening of life and movement. Our attitude with regard to

beauty is that we desire to find both absolute beauty, if such exist, and the beauty of fitness and life by means of studying the living forms themselves. This study is difficult, undeniably, but it is so chiefly because it has not been placed on such a basis of science and certainty as are most or all other kindred subjects.

Let me say at once, as our excuse, if one be needed, for suggesting yet another *method* (for I know in what aversion the term is held by many here), that in spite of all that is said and written about the usefulness, the need, the educational value of drawing—amongst the numerous and often opposite systems advocated for the teaching of *young children*, we have not heard of *one* fitted to definitely, practically help the full-grown, intelligent *student*, be he nominally teacher, art student, or, in the good sense, amateur, to study intelligently and so to master the elementary difficulties of this subject.

Is it not fitting that, however much of *art theory* we may indulge in, we should find more satisfactory means of putting *art practice* in its simplest forms, above alluded to, on a rather better, surer footing? Would it not be well to begin by doing something for the teacher, and for all those who have neither time nor opportunity to go through the complete courses of study offered in the large educational centers?

The self-correcting system was formulated with this idea in view. It suggests no substitute for study, no *royal road*, and especially no easy way of learning to draw, though I well know that it is apt to call forth at first sight some amount of prejudice on the part of art teachers.

I have to ask now, not whether such a method has a right to exist and be recognized, but rather whether there be not, as seems to many, pressing need of such an one, founded on simple scientific fact.

I must confine myself to a few words concerning how far the suggestion of a method of this sort is likely to meet with that consideration and absence of prejudice on the part of the distinguished educators here assembled, which may fairly be claimed for it on the several grounds I have already in part enumerated.

These are chiefly two: The value of drawing, both educationally and practically, which has come at last to be generally admitted, brings with it the desirability, the *need* of a method making it feasible for anyone of ordinary intelligence or capacity to master its elements.

In the second place, there is in this direction a danger none the less real, to which something practical must be opposed. I allude to photography. Photography is unquestionably one of the greatest of modern inventions, and is absolutely without a rival in the help it has given to *education*, to industry, to science, and in certain ways to art. Indeed, it seems impossible to overrate the services rendered by photography in each of these branches, but we must not let gratitude for all these good things blind us to the fact that photography has been, and still is, a stumbling-block in the way of artists and of art-draughtsmen, all the more to be noted that it is so often hidden from view.

THE PHILOGRAPHIC METHOD.

The full importance of drawing as an essential educational subject being once recognized, and the need of such systematizing that it may be taught to one and all admitted, we have aimed, in formulating the philographic method, at establishing a simple, direct, intelligible system of study, equally helpful to the teacher and pupil, who by it becomes to a great extent his own master, thus realizing the sub-title of *self-correcting* method.

This principle of self-teaching, which so distinctly underlies all the precepts and suggestion in Leonardo da Vinci's "Treatise on Painting," addressed to young artists, is what we have endeavored to carry out practically, and still more according to the spirit than the letter of the great master's teaching—so to guide the pupil that in the very

earliest stages not only no time be lost, but that every morsel of time and energy be turned to good effect, and no bad habits of half-seeing and half-doing be contracted.

Now from the very title of my subject it will have impressed you that mechanical help is to come in somewhere, and I may as well say at once that we *do* believe in the intelligent use of simple, mechanical test-instruments suited to the needs of each class or stage of work. Leonardo appears to favor the use of any practical help, mechanical or other, in view of learning thoroughly the true *perspective of form*, including organic or living forms; gaining the science of "right seeing," which we may take to be the nearest equivalent of the ancient and true meaning of the term *perspective* as used by the old masters. If such things were allowable in his time, surely it were vain now, in our own days of rapidity and accuracy, of scientific testing, weighing, probing, and studying, to insist that in *this one* difficult and generally proclaimed *indispensable* branch of work alone no kind of test should be adopted, the use of no outside means permitted for strengthening and quickening the powers of observation and judgment as to proportion, form, and space. Whether we like and admit it or not, it is very clear that machinery, in the shape of photography, has been doing its very best during the last fifty years, even in the so-called arts of design, to replace human handiwork—far worse, to supersede the human eye. It is very strange to remark how those people who cry out against anything mechanical in learning to draw, to the extent sometimes of objecting to a pencil being held in the outstretched hand for measuring the general proportions of subject or model, do not perceive how frequent a thing it is becoming for the painter, the well-established, full-grown artist, to discredit his own God-given power of sight in favor of the glass eye of the camera. Yet so far is this the case that many of the most modern and fashionable painters of the day, much more glaringly in France than elsewhere, give us in their pictures neither more nor less than the disturbed presentment obtained by what photographers term a "wide-angle" lens, thus completely renouncing their own natural human sight in favor of the distorted production of photography. Such cases are, of course, extreme; still, anyone who thinks the statement exaggerated should make sure for himself by visiting and carefully examining exhibitions held in London, Paris, and doubtless in this country, and there is no question but he will discover some few choice examples of such inhuman perspective. If the professional artist can be so misled, and is so ready to mislead others, it is not too soon to make mention of this dangerous tendency, and to seek means of opposing it. It has seemed to us upholders of the philographic system that the very simple, elementary suggestion proffered by Leonardo in the work above alluded to might be taken as the basis of an instrument constructed on precisely the same principle as the human eye, that, namely, of obtaining the immediate projection of forms on a transparent plane, forming a section of the visual cone, and necessarily at right angles to the axis of that cone, which would give us the help we require.

As auxiliary to this, and in conjunction with it, we adopt the principle of that most useful invention of one Dillingen, known in modern times as the pantograph. Add to the above the study of the oblique line or *axis*, forming the basis of a simple graphic language or alphabet corresponding to the systems of names and notation used in the study of color tones, numbers, etc., and you have the whole substructure of this method, which I will now explain more in detail.

Let us suppose a pupil is possessed of the ordinary amount of intelligence, wishing to learn, but ignorant of any knowledge of drawing whatever—whether the freehand copy or the pretty little view sort, or even, if you wish it, of plane geometry. We count two principal means of acting on this pupil; the first, well expressed by the French word "*entraînement*," rests on the immense power for good of well-directed repetition (force of habit). Produce from the very beginning true and correct representations of forms by what means soever, you must soon learn to see those forms correctly,

and your mind will become fitted for learning the theories relating to their appearances, just as by similar practice of repetition and imitation you learn the true pronunciation of a foreign word or the true sound of a note in music. Whether one may become good by doing good actions generally, is a question we do not pretend to answer, but we *do* affirm that tracing and seeing from the first the real, solid forms before us as they appear when translated on to the transparent plane, is a great help toward being able to draw them on paper. So much for repetition. Next comes self-criticism, called also *autogonism*, or combat against one's self—putting into useful form the undeniable fact that (all ungenerous and carping criticism apart) we can judge more sanely of the truth and error of a work not our own than of a similar work on which we have expended to the full our own time and energy.

To have our own work so presented to us that we can criticise it with the same inciviveness that we bring to bear on that of another, is, in a word, to act out with a home-directed application the parable of the mote in our neighbor's eye. This is what we are enabled to do by the combination of Leonardo's transparent plane with the pantographic principle discovered by Dillingen, demonstrated by means of an elastic thread and a movable indicator. The simple mechanical appliances of which we recommend the use are the separable parts of the typical philograph, which being simply a register of the human optical instrument, contains neither lens, prism, nor reflector. We use these instruments chiefly as tests of freely done drawings, and because it is not reasonable to expect the hand and eye which did a certain work to have the further accuracy necessary for immediately judging and testing that work; and we maintain that the use of such helps, by enabling the beginner to attack much more difficult subjects than he could do otherwise—namely, the drawing of irregular organic forms, etc.—prevents his being himself a machine, as he is apt to be when tied down to the constant repetition of inorganic geometrical forms which we have seen strongly advocated in the generally approved text-books of "form study." With regard to the oblique line or axis (the basis of that graphic alphabet by which we cultivate the habit of describing to ourself the portrait to be made, before putting down one stroke with brush or chalk), several things must be taken into consideration. Most people are ready to admit, on due reflection, that the oblique line is the *line of life and movement*. Careful observation will show that all organic movements are founded on the co-relation of angles, or that the movements of living bodies may be and are represented by oblique lines (giving the axis of each part), forming angles more or less acute in proportion as the movements are more or less violent. Only where there is no movement, no sign of active life, are there no oblique, but merely vertical or horizontal lines to be noticed. Is not this sufficient reason, when we are bent on drawing forms representing life and action—any forms whatever other than architectural or geometrical—for setting aside the eternal plumb-line and squaring methods, or at least for preferring before them the oblique or diagonal line, otherwise called the *axis*, and which we find to be the simplest expression of the characteristic *direction or movement* of every organic body or form? . . . We think so. Hence comes it that the first of our mechanical aids are made chiefly on the plan of utilizing the transparent vertical plane.

From what has been said I assume it is evident that whilst in the case of the beginner practice is intentionally put before and above theory, the general tendency of the method is far more to call forth and develop the individual thought and effort of each worker than to lessen these, although this objection is generally made at the first suggestion of mechanical means. Finally, with regard to the oft-evoked artistic individuality of the student, although, as I venture to remind my hearers, it was of a method intended to help forward the study of drawing *as an educational subject* that I undertook to speak, I can only ask whether a reasonable study of the perspective, not only of lines and planes but chiefly of *organic and living forms*, can possibly interfere

with the artistic, or, better, the poetic and imaginative, faculties of any person on earth? Is it not rather the one thing which the vast majority of competent critics admit to be most needful in modern art? In this sense, is not the adoption of some such system worthy the consideration of this august Congress?

GENERAL DISCUSSION.

MR. ANSON K. CROSS, of the Normal Art School and Museum of Fine Arts, Boston, Mass.: In his industrial work he finds pupils who have drawn in the public schools and high-schools, unable to draw the forms of simple objects. When they can do this, the art schools may teach them art. He quoted Ruskin in regard to the small proportion of people who see correctly. He feels that ability to give facts must precede artistic work. He criticised the statement made by Mr. Talbot at a previous session, that drawing from an object is no more *drawing* than writing with a copy before one is composing. The pupil must learn to spell in art as well as in language.

PROFESSOR W. M. R. FRENCH, of Chicago Art Institute, said that pupils had come to the Art Institute, and after drawing a human figure from the antique, had been unable to put a plinth under it correctly. He has, in consequence, introduced the drawing of objects involving the ordinary principles of perspective.

MISS LUCY SILKE, of Chicago, favored training in the beautiful at an early age. As pupils use good language without knowing the rules of language, so pupils may unconsciously acquire good habits in art from the contemplation of good examples. The children's art is the highest kind of art.

DR. JAMES MACALISTER, of the Drexel Institute, Philadelphia, said: But one college in this country requires any knowledge or skill in drawing for the bachelor's degree. This is a great thing, that one college of the first rank, Johns Hopkins, requires drawing for its B.A. The appreciation of art is far in advance of the skill in drawing. In the London Board Schools the pupils are surrounded with copies of good works. Why should not all schools surround their pupils with casts and pictures, copies of the best? Any school can import casts duty free. So far as the speaker's experience goes, he considers drawing from the object the only valuable exercise. Tin cans and earthen jars correctly drawn are subjects for art instruction. A teacher in the Drexel Institute solved the problem of how to get the objects before the members of the class by giving each pupil a group of small models at his desk. Give the pupils all the good masterpieces possible, but require them to draw from objects.

MRS. F. M. HOLLAND, of Boston, said that the pupils in good schools had found great benefit from copying, and even tracing, works of good masters.

MRS. HICKS, of Boston, said that it is rumored that young men who enter Harvard are said to be deficient in writing English. It is said that their deficiency is because of a lack of reading. We are trying to get the pupil to become familiar with art even as he should be familiar with good reading. Football and kindred exercises may have kept him from English. Perhaps, sometime, nothing will keep him from either. In relation to light and shade, she thought that young children can hardly see light and shade for themselves. If uniform renderings result from work, pupils are taking the impressions of some one else. She would not begin light and shade until the pupils are about twelve years old, unless they can be removed from the vicinity and influence of their mates.

MR. GOODENOUGH, of Brooklyn, N. Y., believes in light and shade, and that it should be put in as far down as possible.

MR. BROWN, of Indianapolis, said that pupils can see shadow if the light is allowed to enter at one side of the room. A child cannot learn to draw as he learns to write or to spell. His drawing must be the expression of his spirit. Even though the ellipses are imperfect and the lines do not converge perfectly, the drawings are glorified and finished.

MISS SELLECK, of Indianapolis, said that in many meetings we have looked for method. We ought to depart with a feeling of joy that at last we are searching for principles.

MRS. HICKS said that in order to help the children glorify their drawings we must give them the medium which will produce the most refinement.

MISS PASCAL, of Iowa, questioned the possibility of good light and shade before correct outline has been attained.

MRS. FULLER, of Washington, gave the results of an experiment with light and shade below the high-school. First and second grade pupils did not see light and shade. Third and fourth grade pupils were delighted with it. From there up they seemed inspired by the opportunity to use light and shade. Their perspective was greatly improved by the work in light and shade.

SHOULD PUPILS DRAW FROM THE FLAT?

BY HELEN BONDY, A GRADUATED TEACHER, VIENNA, AUSTRIA.

In drawing, two stages of teaching must be distinguished; the first must be devoted entirely to the acquiring of sufficient skill in the drawing of straight and curved lines in all situations, and to attain a just eye for measures and distances on the flat. This purpose is best served by copying of flat ornaments either in the same or in other given proportions. But this drawing from the flat must be strictly limited to these exercises, and ought *not* to be extended to the copying of flowers, trees, and human figures from the flat.

When the pupil is able to copy a somewhat complicated ornament with the least possible use of his india-rubber, in an exact outline which may be sometimes drawn out in china-ink, he is sufficiently prepared to be promoted from the drawing from the flat to that from models. This transition from the flat to the corporeal objects in space must be prepared for by practical hints on the most important laws of perspective.

In our Austrian schools the first objects drawn from nature are revolving models of thick iron wire, representing the straight line and various straight-lined figures that can be set up in different angles to the observer, and which afford opportunity to explain how the same line or figure can present different effects to the eye by the slightest change of position. Following, later on, are large wooden cubes, prisms, pyramids, etc., taken singly and in groups, which suggest to the children's observation not only the changes in outline an object suffers by the laws of perspective, but also the different degrees of light and shade, shadows projected and reflected light. It is easy to proceed from these geometrical models to the drawing of simpler pieces of furniture, as a chest, a table, a chair, an open door (the last giving a particularly valuable piece of instruction); or to the copying from plaster casts of architectural and ornamental details, as well as of parts of the human body.

It is most desirable that public schools should awaken in young minds

artistic feeling. But it is only in secondary education that works of art should be introduced into the schoolroom. For, with the rare exceptions of prominent talent, it is only after the fourteenth or fifteenth year that young people are mature enough really to appreciate such works. Yet in elementary education the foundation can be laid successfully for the understanding and enjoying of art in later years, when we adhere to the following principles: Any picture or model that is brought before the pupils in object-lessons should not only serve to enlarge material knowledge, but should be agreeable to the eye by its harmony of form; and sometimes, when the scientific part of the object is talked over, the teacher should not neglect to direct the attention of the children to certain beauties in outline, color, and grouping. Of course such remarks must not become monotonous and pedantic. But it is not necessary to specialize the manner in which such occasional remarks should be made; the practical teacher will know how to proceed.

When engraved or colored landscapes, the showing of which should always be an integral part of geographical lessons, are brought forth, or pictures representing important historical events, they ought not only to be utilized for the culture of reason, but for the nurturing of artistic feeling.

A teacher who himself has taste for beauty in nature will neglect no fit opportunity to point out the beauties of outward appearance, too, in animals, plants, and minerals. In all these cases, also, the opinions of the children should be drawn forth by fitting questions from time to time.

When minds have been thus prepared in earlier childhood, we can introduce at the secondary stage of education reproductions of works of art—that is, photographs and engravings from pictures and sculptures. This should be done in the form of a history of art that can easily be connected with universal history. When the teacher attains in his courses the close of a historical period, a characterizing outline of the contemporary movement in art should follow, illustrated by the above-mentioned copies of masterpieces. This survey of the evolution of art can, of course, be rendered the more interesting in larger cities, where galleries and museums are easily accessible.

By following such a course we may hope to approximate at least our ideal aim in this branch of education: the awakening of taste and of the appreciation of the beautiful that has so large a share in human happiness.

DEPARTMENT CONGRESS

OF INSTRUCTION IN VOCAL MUSIC.

SECRETARY'S REPORT.

FIRST SESSION—WEDNESDAY, JULY 26, 1893.

THE Congress of Instruction in Vocal Music, held in Hall 31, Art Palace, was called to order at 9:30 A.M., Wednesday, July 26, by the Chairman, Professor F. W. Root, of Chicago.

After a few introductory remarks by the Chairman, a paper was read by Mr. Charles H. Greene, of Peoria, Ill., on "Learning to read Musical Notation."

This subject was discussed by Mr. Blackman and W. E. Watt, of Chicago; N. L. Glover, Akron, O.; Mrs. Liska Brachvogel, of Nashville, Tenn.; Mrs. J. S. Dinwoodie, Duluth, Minn.

The subject, "Harmony in Music," was discussed by E. H. Norse, Mr. Blackman, and Mrs. Rose Gleason, of Chicago; Mrs. Love, Muncie, Ind.; Mrs. Rice, of California; J. L. Barron, Ontario, Canada; Mr. Greene and Miss Hofer, of Illinois.

3. What music is especially adapted to children from five to ten, and what from ten to fifteen years?

4. The feasibility of forming a library of pieces of music of permanent value for the different ages of youth—say, for example, selections from such composers as Nægeli for pupils from five to ten years, and from such as Mendelssohn for pupils from eleven to fifteen years.

The subjects of the above theses were discussed by Mr. Blackman, Mr. Watt, and Mrs. Roper, of Chicago; Mr. Mueller, Spokane Falls, Wash.

5. The danger of confining the course of study in music for a too long period to reading and singing mere mechanical exercises devoid of artistic merit and empty of all thought and feeling.

This subject was discussed by W. A. McAndrews, Brooklyn, N. Y.; Mr. Grigg, Denver, Colo.; Mr. Watt and Miss Hofer, of Chicago; Mr. Glover, of Ohio; Mr. Lawrence.

SECOND SESSION—THURSDAY, JULY 27, 1893.

THE Congress of Instruction in Vocal Music was called to order by the Chairman at 10 o'clock A.M., Thursday.

The first paper of this session was read by Mr. John Howard, of New York, on "The Physiology and Hygiene of the Vocal Organs." The discussion following this paper was participated in by Mr. Watt and Mr. Norse, of Chicago; Mr. Glover, of Ohio; Mr. Howard, of New York; and Mr. Holt, of Boston.

The discussion was continued on "the vocal teacher's use of some instrument, as the piano or violin; and also of classical music."

Remarks were made by Mr. Marshall, of Newark, O.; Mr. Root, Mr. Cady, Mrs. Roper, and Mr. Lawrence, of Chicago; Mr. Holt, of Boston; and Mr. J. H. Kappes. The session adjourned by singing, "Blest be the tie."

THIRD SESSION—FRIDAY, JULY 28, 1893.

The third session of the Congress of Instruction in Vocal Music was called to order by the Chairman at 9.30 A.M., Friday.

The first paper was read by J. E. Lightner, of Sharpsburg, Pa., on "The Respective Functions of the Regular Class Teacher and the Special Teacher of Vocal Music."

The discussion following this paper was participated in by Mr. Kappes, Mrs. J. P. Rice, of California; Mr. N. Coe Stewart; Mr. De Coate, of St. Louis; Miss Hofer and George F. Root, of Chicago; United States Commissioner Harris; H. E. Holt, of Boston; Mr. Grigg, of Denver; S. W. Straub.

Then the discussion was suspended, and the following resolutions were presented:

Resolved, That this Department of Instruction in Vocal Music heartily indorse the appointing of a committee, to be composed of one from each State and Territory, to take measures to influence the several State legislatures to take such action as will place the study of music in the curriculum of required branches of study in all schools of the State, and that we earnestly coöperate in efforts to this end.

The resolution was adopted, after which the Congress adjourned to meet at 2.30 P. M.

FOURTH SESSION—FRIDAY, P.M., JULY 28, 1893.

The fourth session of the Congress of Instruction in Vocal Music was called to order by N. Coe Stewart, he having been invited by the regular chairman to preside at this session.

"The Systems of Musical Notation" was the principal subject of discussion during the fourth session.

The following persons took part in the discussion: E. W. Norse, Mr. Montz, and Mr. Watt, of Chicago; Mr. Glover, of Ohio; Mr. Holt, of Boston; Mr. Barron, of Canada.

The subject of excusing pupils from singing was also considered by Mr. Howard, of New York; H. H. Johnson, of Mansfield, O., and Mr. Lightner, of Pennsylvania. The discussion of this session was closed by remarks of Regina M. Carlin, Supervisor of Music in Public Schools, St. Louis.

LIST OF PERSONS ACCEPTING THE OFFICE OF HONORARY VICE-PRESIDENT OF THE DEPARTMENT CONGRESS OF INSTRUCTION IN VOCAL MUSIC.

AUSTRIA.

Dr. H. Von Billing, Vice-President Conservatory of Music.
Prof. Edward Hanslick, University of Vienna.
Herr Jos. Helmesberger, Director of Court Orchestra, Vienna.
Herr Anton Sruka, Secretary Conservatory of Music in Prague.

CANADA.

Edward Fisher, Toronto.
W. G. Workman, Music Teacher, Ottawa Normal School, Ottawa, Ontario.

FRANCE.

Monsieur S. Guilhot, Orphélinat Prévost, Cempuis, Seine-Oise.
Monsieur A. Pauraux, Inspector of Singing, Paris.

GERMANY.

Prof. Waldemar Bargiel, Director Section of Composition, Conservatory of Music, Berlin.
Prof. Max Bruch, Composer and Director of Music, Berlin.
Prof. A. Schulze, Director of Singing, Conservatory of Music, Berlin.
Prof. Dr. Spitta, Privy Councilor, Berlin.

GREAT BRITAIN.

ENGLAND.

John Evans, Instructor in Singing, London School Board, London.

UNITED STATES.

ARKANSAS.

Mrs. L. Heerwagen, Little Rock.

CONNECTICUT.

B. Jepson, Supervisor of Music, Public Schools, New Haven.

DELAWARE.

C. B. Rhoades, Wilmington.

FLORIDA.

Mrs. Ankie Green Parker, Ocala.

GEORGIA.

B. C. Davis, Musical Director, Public Schools, Atlanta.

ILLINOIS.

Albert R. Sabin, Assistant Superintendent of Schools, Chicago.

IOWA.

J. W. Ruggles, Fayette.

KANSAS.

George C. Young, Wichita.

MAINE.

Henry F. Roy, Lewiston.

MASSACHUSETTS.

Junius W. Hill, Director Wellesley College School of Music, Wellesley.

Hosea E. Holt, Supervisor of Music, Public Schools, Boston.

J. E. Kimball, President Musical Association, Oxford.

MICHIGAN.

A. A. Stanley, Ann Arbor.
Mrs. E. A. Thomas, Detroit.

MINNESOTA.

O. E. McFadon, Supervisor of Music, Public Schools, Minneapolis.

MISSOURI.

Mrs. Regina M. Carlin, St. Louis.

NEW HAMPSHIRE.

E. T. Baldwin, Manchester.

NEW JERSEY.

T. L. Roberts, Supervisor of Music, Public Schools, Jersey City.

NEW YORK.

Edward Dickinson, A. M., Director of Music Department, Elmira College, Elmira.

Mrs. L. M. Henriques, Professor of Music and Vocal Culture, New York.

Sigmund Lasar, Professor of Music, Baker College Institute, Brooklyn.

OHIO.

W. H. Lott, Supervisor of Music, Public School, Columbus.

OREGON.

E. Cook, Portland.

PENNSYLVANIA.

Charles W. Leander, Music Publisher, Philadelphia.

Theodore Presser, Secretary Music Teachers' National Association, Philadelphia.

E. E. Rinehart, Supervisor of Music, Pittsburg.

TENNESSEE.

J. E. Bailey, Supervisor of Music, Nashville.

WASHINGTON.

F. Mueller, Spokane Falls.

WEST VIRGINIA.

Miss Lillie E. Church, Parkersburg.

INSTRUCTION IN VOCAL MUSIC.

OPENING REMARKS BY THE CHAIRMAN,

PROFESSOR F. W. ROOT, OF CHICAGO.

ALTHOUGH not directly in this line of work, I am greatly in sympathy with school-music teaching, believing, as I do, that this department is the most potent of all in making ours a musical nation ; and believing, moreover, that the school-music teachers are availing themselves of the best thought of our time to improve their methods and do their important work conscientiously and effectively.

School-music work is not as conspicuously honored as it deserves. The finishing teachers often get credit for results which have been made possible only by the long-continued, patient, systematic work during the pupils' formative years at school. School-music teachers do for musical authors what parents and home influences do for character—the most important because fundamental part. And so, although some of us musicians have no direct contact with this department of work, we must be blind indeed if we do not appreciate how dependent we are upon it, and what a debt of gratitude we owe to you who are working effectively in that field.

LEARNING TO READ MUSICAL NOTATION.

BY CHARLES H. GREENE, PEORIA, ILL.

“In what grades should children commence learning to read musical notation?”

UPON entering a primary schoolroom at the beginning of the school year, I feel it my duty to be able to determine almost instantly the capacity of the teacher to govern her class, and to determine as quickly how I can do *my* work so that the room will, when I leave it, be in a better condition than when I entered it.

What is a good lesson in one room may be a very poor lesson in the room across the hall ; and experienced teachers will tell you that classes vary a great deal from year to year. Three years ago I found a class in a district where the best work or the best talent could not be expected, yet they did very good work. The intelligent lady teacher seemed surprised at their progress. The next year all was changed. The class, to put it mildly, was very stupid, as far as singing was concerned.

And now we come to consider the question, "In what grades should children commence to learn to read musical notation?" I wish to say here that children can learn to read music, and not see any notes or other signs used by musicians. I will imagine that I have taught my class to sing three musical sounds. I have taught them to distinguish between a musical sound and a noise, and now I need some signs to represent musical sounds, and I take what is nearest to me. The desk represents "one," the book "two," and the chair "three." I have taught them that the names of the tones are taken from the names of numbers, one, two, three; and I say, You may sing as I point, and the lesson is, One, one, two, two, three, three, two, two, three, three, two, two, one, one, one, one. Any other signs near us will do as well at this time.

Now we will go back to the class, the first week in September; I found the teacher very much discouraged. She had enjoyed the singing of the previous class, but to her mind the outlook was gloomy for the class before us. I sang a tone many times with the syllable "la," at a convenient pitch for the children to sing. At first they paid but little attention. I varied my lesson by singing other syllables, all to the same pitch, and also intoning familiar words. I saw that I was gaining ground; nearly every child in the room was looking at me, and I asked them to sing "la" with me. Only a few sang, but I kept at work on this line for fifteen minutes, and gave up the fight for a week. I was tired, but not discouraged.

The next week I commenced where we left off, and at the close of the lesson a majority of the children could sing a lesson with two tones and eight measures. I followed up the work from week to week until the class could sing some good songs by rote—for I believe in teaching some songs by rote in the first (lowest) grade—could sing the scale quite well, and could sing many exercises from the blackboard, in good time, without the teacher pointing. Now my point is, by commencing from the first lesson to teach notation I awakened more thought and interest and secured closer attention than I could have done by trying to teach them songs by rote, or trying to teach them the entire scale before anything else was done. If this is true of children with but little talent, how much pleasure and profit will come to those with more talent! My experience tells me that notation can be and should be commenced very early with the youngest children. Unless notation is commenced in the first and second grades, many children will never learn to read music.

Often at this early age some children have developed such a distinctive talent for music that it has shaped and colored their whole lives. How much time would I take for notation from a lesson of fifteen minutes long? Perhaps three or four minutes, and it may be possible that the whole lesson can profitably be given up to the teaching of notation, and the next lesson given up to the teaching of songs by rote. Special teachers

should have good judgment, and use it continually ; no wise teacher will continue a lesson the moment children show signs of fatigue. The work can be made so pleasant to the children and to the teachers in the different rooms that "singing day" will be looked forward to with great delight.

DISCUSSION.

PRINCIPAL W. E. WATT, of Chicago : Singing by means of notation should be put off to the third year. At first, begin with rote singing, to instill songs of home, love, friendship, and patriotism into the minds and hearts of the children. The teaching of these songs should not, as a rule, be left to the regular teacher, for many of these do not know how to teach them in the proper manner; the special teacher should teach all rote songs in an artistic manner. If many leave school before they enter the higher grades, they will carry away much more that will be of real value to them by learning beautiful songs, having words of good sentiment, than any ability they may gain in music reading.

MR. BLACKMAN, of Chicago : The teaching which leads to music reading should begin with the first lesson. For instance, if the teacher should make regular motions with the hand, the children imitating, she would be teaching them to compute time. Couple with this the singing of two or three tones of the scale, while the children are led to unite these tones to such words as they can appreciate, and the work of education in music teaching is begun. Children should be taught rote songs also, and I hope the United States Commission of Education will secure a classified list of suitable rote songs for the use of the schools of our country.

MR. N. L. GLOVER, of Akron, Ohio : I am surprised that there should be any diversity of opinion on the time of beginning to read music. Rote songs should be continued through all the primary grades, provided the example given by the teacher is worthy of imitation ; but music reading should commence at first and should be continued until the pupil is able to sing new music from the notation without any aid. The gentleman who read the paper had trouble in teaching a tone of one given pitch, at first, to some beginners, while others learned it more readily. Some could imitate better than others. My experience has been that pupils can imitate more easily when several tones of the scale are used in short musical phrases than when only one tone at a time is used.

MRS. J. S. DINWOODIE, of Duluth, Minnesota : I advise dwelling upon the scale about three weeks, then taking up such notation as is necessary to represent what has been learned.

Harmony.

MISS LISKA BRACHVOGEL, of Nashville, Tennessee : I think the feeling of time should come first.

MR. E. H. NORSE, of Chicago : In what grades should pupils be required to take up part singing ? I think they should be taught to sing chords as early as the third year. Let the pupil hear these beautiful combinations of tones. They will take great delight in this kind of work. It will train their ears, and they will be able to produce a tone of better quality. When they can sing chords, let them reach out, a little at a time, in two-part singing, and they will gradually grow into part singing.

MRS. LOVE, of Muncie, Indiana : I advise that harmony should be commenced the first year. The time will come when vocal harmony will be taught from the start.

MRS. RICE, of Los Angeles, California : I think the study of harmony should begin the first year. We do it on the Pacific Coast, but it may be the children there are brighter than others.

MR. BLACKMAN : The intervals of the scale should be thoroughly fixed before harmony is begun, and a good tone should be first formed, or the harmony produced would be discord. I think the fifth grade is soon enough for two-part singing.

MISS ROSE GLEASON, of Chicago : Teachers should sing one part while the children sing another, even in the first grade.

MR. J. L. BARRON, of Ontario, Canada : I think as alto is not so tuneful, children do not like to sing that part. What can we do to make them like to sing alto ? Parents always object to having their children sing alto. What can we do ?

MR. GREENE : I have the same difficulty, and it even extends into the high-school. Only a small number can be persuaded to sing alto, while many should sing that part who insist on singing soprano.

MRS. LOVE : The difficulty might be obviated with the younger children by not calling it alto, but have the school sing in divisions alternately, thus giving all an opportunity to sing a lower as well as a higher part.

MISS RICE : Are we trying to make alto and soprano singers or independent singers ? (Many voices : "Independent singers.")

MISS HOFER : Every part is a melody if the music is properly made. Only such a class of music should be taught.

[The following topics were discussed together.]

"What music is adapted to children from five to ten, and what from ten to fifteen years?" and "The feasibility of forming a library of pieces of music of permanent value for the different ages of youth, as the songs of Nægeli for pupils from five to ten, and Mendelssohn for pupils from ten to fifteen years."

MR. BLACKMAN : The Commissioner of Education would like to have a list of songs incorporated in his report, which should be taught in the different grades of public schools, and we should take steps to aid in this matter.

MRS. ROPER, of Chicago : I think the folk-songs of the nation, as well as patriotic songs, should be included in the list ; indeed, even the native wild melodies of the different nations should be collected for this purpose.

MR. WATT : I wish to protest against the songs of Nægeli for children from five to ten years, and Mendelssohn for pupils from ten to fifteen years, and so would these composers if they were present to-day. Both of these masters have written songs suitable for all ages. I would not rule out Mendelssohn's songs for the very young, and Nægeli's for the older, but use the songs of both which are suitable to the age of the child.

MR. MUELLER, of Spokane Falls, Wash. : Only a few of the songs of these authors are suitable for the young singer. I found that Carl Keinecke was the most prolific song-writer for the young. His songs are tuneful. Children love them. They are of a high order and contain much artistic merit, and are nearly as easy to learn as much so-called music which is worthless to the pupil when learned. Many of Liszt's transcriptions are the folk-songs of different nations, treated in a masterly way ; and this accounts largely for their popularity. Music may be very simple, yet contain many elements of artistic value. Concerning the folk-songs of our own nation, some one has said that "America's only folk-songs are the songs of the colored people."

"The danger of confining the course of study too long to singing mechanical exercises devoid of artistic merit and empty of all thought and feeling."

MR. W. A. McANDREWS, of Brooklyn, N. Y. : Too much notation, in my case, has led me to form a dislike for music, and it took four or five years' association with musicians to bring me back. We must reach the high-school pupils by singing music that will amuse the pupils, even humorous songs, and give them such music as they shall delight in, as college songs, in order to get them interested, and then we can "slip in" some of the better class of songs when we have them in the proper condition to receive them. We must reach them through the æsthetic side rather than from the intellectual side, if we would do them good. We must do more singing and less mechanical, dry study. If possible, a good solo singer or two should be introduced occa-

sionally, a person as near as possible to the age of the high-school pupils, who shall sing for them. This example will help to create a desire for singing which will make the work easier for the teacher and more fruitful to the learner.

MR. GRIGG, Denver, Colorado : I supposed music was an intellectual exercise as well, and thought it should not be employed merely to amuse; that if this method had to be employed to interest the older pupils, there was something radically wrong in their earlier teaching, or they had had none at all. In order to learn to sing from notation, there must be mental work, and that of a vigorous kind, for it requires sharp, quick, active thinking to make an expert singer, or even an average reader of music. There is of necessity some rather dry, laborious work to be done, and it must be done, or failure is the result. Children have to learn the multiplication table and think it dry and distasteful, but later on they see its use; so it is in learning to read music. We must teach the mechanical along with the æsthetic, but not let the former take the place of the latter and thus deaden the love of music.

MISS HOFER, of Chicago : We must begin where it pleases the child and work from this point. We must lay our theories aside if we see that they are a hindrance to the proper development of the musical feelings of the child.

MR. WATT : No mechanical exercises devoid of artistic merit, empty of all thought and feeling, should be used at all; and only artistic exercises should be used from the beginning.

MR. GLOVER : There is too little importance given in the child's music to popular songs of a permanent character. Too little attention has been paid especially to the proper teaching of patriotic songs and the words that go along with them. No other nation is so slack in this matter as ours. I am glad that of late there is more of this teaching of patriotic songs being done, and I encourage the teachers to see that it is kept up. It has been said that on a steamer crossing the Atlantic there were several nations represented, and the representatives of each nation one evening engaged in singing their respective national airs, and when our nation's turn came not a single American could remember all the words of "America," "Star-spangled Banner," or any other national air. I now ask all in the room to rise who can remember all the verses of "Star-spangled Banner." [Three persons only arose.]

MR. LAWRENCE : Americans are not equal to foreigners in the matter of words, nor in music either. The tune belongs to the words; words are characteristically national, music not so much so. Lyric loses its beauty by translation, and cannot be translated. Music preserves its peculiar characteristic when adapted to words of another language. We sing "My Country, 'tis of Thee," in our tune "America"; the English sing "God save the Queen" to the same tune. American songs should be made which are truly American. All songs worth learning at all should be committed to memory so that no books are needed when singing.

PHYSIOLOGY AND HYGIENE OF THE VOCAL ORGANS.

BY JOHN HOWARD, OF NEW YORK.

The voice-teacher's knowledge of the physiology and hygiene of the vocal organs. The degree of strain the vocal cords can endure without injury, at the periods of growth from five years to fifteen years.

CERTAINLY the more of vocal physiology the teacher knows, the better is he qualified to teach, even though his knowledge is confined to that furnished by the ordinary text-books used in the public school. He would be less likely to commit many more current errors, harmless enough in themselves, but ruinous when solidified into exercises to be given to the implicitly obedient pupil.

Were there known and established laws even for the positions of the vocal

parts, an immense advantage would be gained. These principal parts are easily enumerated. But even in this comparatively easy matter there is extreme disagreement. Nearly all teachers advise a widely opened mouth. But was Scalchi taught to protrude the lower jaw? Hayden Tilla grandly proclaims that the secret of singing is to protrude the *upper* jaw—an experiment I hope no friend of mine will succeed in performing. Nearly all *maestri* advocate a smiling position of the lips; yet Weiss, a better authority than the average, wrote a little brochure antedating his larger work, and declared that the secret of tone lay in the pressure of the lower lip against the teeth. Many teachers spread the corners of the mouth for *ee* and *ë* (met); others do not.

A great many, like Chater in England, say that the vocal tube must be shortened for higher notes and lengthened for lower ones, by the rising and falling of the larynx; closing his eyes to the fact that single diatonic intervals on the flute shorten or lengthen its tube about an inch, while the whole possible movement of the larynx is, according to Meskel, only an inch and a half. Of course, there are other views; one of a fixed, immovable larynx, which I myself advise, because there is only one hard spot on the front of the spine, and at its natural position the larynx is really opposite this spot, from contact with which it gains resonance.

Dr. Wyllie, of Edinburgh, a careful student, produced tones at the same degrees of pitch whether he applied his weights to the front of the hyoid bone, or to the front of the larynx itself; and, in further illustration, it has long been suspected by some physiologists that the muscles which take the place of Wyllie's weights and pull down on these parts are essential agents in stretching the vocal cords for both higher and more powerful tones.

This experiment suggests the fact that vocal physiology treats not only of the true *positions* of the vocal parts mentioned, but also of the *efforts* of the muscles which can pull upon these parts, and also of those muscles which themselves constitute the parts—as, for instance, the muscles which form the major part of the vocal cords themselves, or of the tongue itself.

Positions easy, efforts difficult. Were vocal physiology simply a question of positions, how simple the subject would be, comparatively! Yet even on this question there seem to exist irreconcilable differences of opinion. Nearly all amicably agree that the mouth should be widely opened; yet how opened?

All this is strictly appropriate for the discussion of the voice-teacher's knowledge of vocal physiology. The question concerns his *qualifications*, and surely implies a request for advice as to his best chances to qualify himself. It seems that there is little agreement even as to positions, and nearly all this agreement appears to me to be misleading. Perhaps there is a nearer approach to unanimity in the two following points; the one, that the throat must be open; the other, that it must be relaxed.

To speak in the first person, as now seems necessary, I appear to have proved to myself that these two opinions are diametrically opposed to the truth. All phonation, all vocal production, seems to me to be a refined evolution of that constriction in closing effort which is the function of the alimentary canal in the lower orders of animals; while the advice to relax I supplant by the instruction to make positively the effort of contraction; and it may be added that, with the exception of the tongue muscles (those constituting the tongue itself) and of one other muscle, the stronger the efforts the more beautiful the tones, both soft and loud.

Now the query naturally arises: If I, for one, have studied faithfully nearly all methods in recent or earlier vogue, and have arrived at such different conclusions, how can I best advise the teacher to qualify himself physiologically to study and experiment with any chance of success? My counsel would be to learn by dissection—for the clearest diagrams are misleading—the actual shape, substance, and relative position of the vocal parts, just as the physician or laryngologist does.

Next, the teacher should study the standard physiologies, especially the German, Houle and Luschka, both of whom describe the anatomy of the vocal parts and append the single office or probable office of each separate muscle. He should not confine himself to the muscles of the larynx itself, but give especial attention to all those which extend from the larynx and its inseparable companion, the hyoid bone (just above the larynx), to other parts. He should see how these extrinsic muscles pull upon the Adam's apple directly or indirectly; should learn how different combinations of these muscles pull; what effect they have upon the consistency of the different parts of the throat, and in what ways they conflict with each other.

Then should come the application: Since these muscles are all of them voluntary, the teacher should get each one under separate, voluntary control, so that he could contract one at a time or put two together at the instant of starting the voice. The different effects produced, the changes of quality or power, would suggest further and more valuable combinations, new and easier modes of gaining this separate muscle government, and soon really valuable exercises might be evolved.

There is absolutely no other mode of investigation upon which full reliance can be placed. So greatly do the muscular habits of throat vary with different vocalists, that there cannot possibly be any little knacks of universal application. There is the vocal function, possessed by every one. There is the beautiful tone of artistic singing, which is an enlargement of the natural function, and is possessed, practically, by no one. This enlargement of tone, extension of compass, and unnaturally beautiful quality are the result of *additional* muscular efforts made by the large extrinsic muscles of the throat, nearly all of which may be either felt or seen—such as the palate muscles, those of the tongue, cheek, lips, and even of the lower throat.

The department of acoustics also needs attention. Suppose the muscular efforts are at ready command, of what use can it be unless it is known or at least suspected to what acoustic law a vocal gain is due? In acoustic respects, all the later writers have run riot. Chater's absurd comparison of the throat to a wind instrument, like the flute, is only equalled by Myers' theory of vocal reinforcement, by Lunn's reckless assertion that the little tiny ventricles compress or press back the stream of vocal breath issuing from between the vocal cords, and thus decide the tone. As well might one expect to compress the air in a foot-ball when half its circumference had been blown away. There is in this statement no twilight suspicion of professional jealousy. I have experimented with Koenig's resonators, imported from Paris. The very smallest of them, the one which is pitched to reinforce the very highest audible overtone of the human voice, is a hundred times as large as the largest existing ventricle in men.

As for advice concerning the recent works on voice—I mean the special ones, written usually by voice-teachers—I am reminded of Beecher's famous specific for a cold: "Put together a little camphor, chlorate of potash, turpentine, alum, and aconite; shake the mixture thoroughly, then open the window, throw glass and all as far as you can; go to bed and keep your feet warm!" I am not at all sure, though, that such fiercely antagonistic and monstrous views as these later works exhibit may not lead the teacher to more independence of his own. Such discrepancies might save him from the warping influence of supposed authority, since there is no universal authority, and might therefore allow original thoughts of ultimate value to arise in freedom.

For a most valuable instance of the worth of even the ordinary textbooks, let me mention that nearly all the standard works declare, unmistakably, that soft tones require more muscular effort than loud ones. Try for yourself; notice at home how strongly you will be tempted to scowl a little when you endeavor to soften a high note to an artistic finish, as Patti does so exquisitely. Though somewhat hoarse from a vanishing cold, and, of course, somewhat unsettled by so much talking, I will try to illustrate. Parenthetically let me remark that the singer should never talk just before singing. He should give himself time to establish anew that *impostor*, as Marcini called it; that setting of the throat in ringing rigidity which must displace the looser state even of public addresses.

The question regarding the endurance of the vocal cords is easily answered. It is practically unlimited. Children shout, scream, and laugh an entire afternoon with no vocal distress, though the cords are in constant and even violent action. The opinion prevails that there is possible some injurious friction of the cords which can irritate them and eventually engender disease. On the decided contrary, they may actually be rubbed against each other for hours without harm. Kanlitz,

of the German Opera, probably the best mime dwarf who appeared in Siegfried, practised the day through a crackling sound which really was made by the mutual friction of the vocal cords. Dr. Clarence E. Rice, one of our most expert laryngologists, examined my own vocal cords while I produced this sound. He said that the oxyhydrogen gas, which we employed, made the cords as distinct as though he held them in his hand close to his eyes, and that they were distinctly seen to rub against each other to cause the grating sound. The singing voice is not possible until this rubbing together is stopped and the cords are allowed to swing freely.

The sudden coughing which often follows harsh or unnatural singing is due to the friction of the back of the larynx upon the muscle which separates it from the spine, not to the cords, unless they are in a state of actual disease. Let me close by describing a most wonderful experiment, made by Harless, more than sixty years ago.

At midnight, this time being chosen to avoid disturbing noises, with two trained assistants, and employing machinery of his own invention, far more complicated than a sewing-machine, with most ingenious devices to mark the slightest changes of temperature and smallest divisions of weight, he first stretched freshly excised vocal cords till they were torn asunder, thus learning how far he could safely try them. Then, by gradually increasing the weights in the exactly graduated scale, he noted down the exact added weight which would produce the ascending notes of a scale of one octave and a half; now taking a fresh specimen and stopping just short of rupture. After one hour and a half of constant strain in various severe experiments, he repeated, *with the very same specimen*, his first experiment, with the amazing result of finding that precisely the same weights brought precisely the same tones, with one trifling exception, which he thought must be charged to the awkwardness of his assistants.

Now, it is impossible to strain any muscle, during its *contraction*, anywhere near any danger of being torn asunder. Long before that point has arrived, the utmost lengthening possible will have been reached. This is a strict answer to the mooted question. If one asks how long can a muscle be contracted without injury, he asks an entirely different question. The vocal muscles will become tired like all others, and it is true that exceptional use will make them painful and temporarily weaken them. But no case has yet come to my notice where a few days' rest, or, in extreme cases, a fortnight, has not fully restored their natural force.

DISCUSSION.

The qualifications of a teacher of vocal music.

MR. WATT : Nearly all well-trained voices use a soft, pleasant voice in speaking.

MR. GLOVER : In taking breath to produce a tone, where does the expansion begin ?

MR. HOWARD : The expansion to produce a tone begins at the fourth rib ; at least the sensation is at this point. Nearly all great singers breathe in this way, but there are a few exceptions, and these persons sing very well.

PRESIDENT ROOT : I think a little knowledge is a dangerous thing on this point. If you do not know thoroughly how to answer, do not answer. It doesn't make so much difference how you take breath, but how to manage it when you have taken it is the serious question. Go slowly on any new theory you may come across; you may be mistaken and then do harm. In regard to the position of the larynx, which Mr. Glover asked about, I would say that there is a certain place where it gives more resonance to the voice. Its position would depend on whether you wished the orotund voice or the thin, sentimental voice. Hold the larynx nearly at one point if you wish ease without much shading ; move it for color of tone.

MR. HOWARD : There is great power in a fixed larynx, and it should be, in all singing, almost fixed ; but I have heard very beautiful tones made by a movable larynx.

MR. WATT : The larynx is attached to the spinal column, but merely tilted in front, and we have the privilege of letting it play a little.

MR. NORSE : I would like to know what we can say to the boys and girls next September.

MR. H. E. HOLT, of Boston : I would not talk to them about these things. How much study of the eye do the painters give in order to paint ? These are interesting points for us to study as teachers, but if the pupil's attention is directed to these things he is made self-conscious, and his mind is directed to the mechanical process. He should think of the music : the voice is but the natural way of expressing the musical feelings of the soul. In teaching children, if perfect intonation is secured nine-tenths of the work is done, so far as using the voice properly is concerned. No rote singing should be done. More interest is awakened by teaching the intervals of the scale and naming them, and thus training the mind to think.

MR. GLOVER : There should be no strain of the vocal cords, and as little tension as possible. A good example should be given, and nothing should be said about the throat and its anatomy. If you talk about the anatomy of the throat, you confuse the pupils as well as yourself.

The vocal teacher's use of some instrument, as the piano or violin ; also of classical music.

MR. MARSHALL, of Newark, Ohio : I should not use an instrument to lead in teaching. It is an advantage to have a piano or organ to give the correct example in teaching chromatic tones, and in illustrating certain harmonious progressions.

MR. ROOT : There is much diversity of opinion as to what constitutes classic music ; each one will have to speak according to his notion of the term.

MRS. ROPER : Classic music is the music which has stood the best test of the artists and musicians. It may be very simple, as "Heavenly Father," by Beethoven.

MR. LAWRENCE : The element of time must enter before music can be called classic. No modern music can be truly called classic, although it may become so if it endures long enough. The teacher should use as much of this kind of music as is easy enough for the children to appreciate, and such as the children like.

MR. HOLT : In our discussion we are soaring above the more practical things in teaching. Music must be put on such a basis that the everyday teacher can do the work, and she does not have the time to study music in its higher forms. We must understand the universal law of teaching music. When we shall truly observe these laws, there will be far more progress than there is now.

MR. J. H. KAPPES : To be a successful teacher you must feel it. There is too much talk about the different systems. If you do not feel what you teach, these systems will be of no use to you. While a boy I was in company with Mendelssohn and other musicians. Mendelssohn said there was a good deal of nonsense in the five-finger exercises and meaningless *études* then in vogue. Why not use the music of Mozart, Rink, and good old Father Haydn ? In regard to what classic music is, Mendelssohn said it was the kind that the more you heard it, the better you liked it ; and the kind that was not classic was the kind that the less you hear it, the better you liked it. Mendelssohn and Silcher wrote the folk-songs for the masses. They were not conscious that they were writing classic music at the time, but they felt what they were writing. Be an enthusiast in your work if you would succeed. The primary teacher should not be satisfied with a little knowledge of her subject.

MR. C. B. CADY, of Chicago : What musical studies in the great masters should the teacher keep up for the sake of his own improvement ? Each specialist must get out of his specialty a part of the time, and practice in other lines. We must not think of instrumental music alone, nor vocal, but *music*. We should learn to play different instruments, we should sing alone, and with others, and especially in chorus, to keep up our education and keep in touch with the various departments of music. We ought to study the works of all the masters and take up the whole field of art, and be educators as well as musicians. There must be preparation if we would accomplish anything.

THE FUNCTIONS OF TEACHERS OF VOCAL MUSIC.

BY J. E. LIGHTNER, SHARPSBURG, PA.

Thesis : "What are the respective functions of the regular class teacher, and the special teacher of vocal music ?"

WHAT are the respective functions of the fingers and the hand ? Of the pinions and the wing ? As a nail is not driven and clinched with one stroke, so is a lesson not grounded in the pupil's mind with one presentation. The nail, to properly perform its functions, must be started aright ; must be of proportionate length to the thickness and density of the timber ; must have the right slant ; must be a good nail. But a good nail, only of right proportions and started properly, will not hold the timbers together. It must have successive strokes, intelligently and persistently applied, until it is clinched, before it will hold. What the successive strokes are to the nail, the regular class teacher is to the pupil—driving, clinching the ideas, while the selection and starting of the nail corresponds to the special teacher's function.

Where both the regulars and the specialists are keenly alive to the situation, and truly realize the responsibility of their callings, the discussion of this question is useless. But such conditions frequently are lacking ; hence the discussion of this topic becomes essential.

Of course the special teacher should have a thorough knowledge of his specialty, and the discussion of that point ought not to consume time.

But, knowing *how to teach*, how to present his subject ; “ having knowledge of methods of instruction ; ” having tact, and ability to concentrate and hold attention till a lasting impression be made, are of vital importance.

Music in the public schools has been brought into disrepute many times because musicians of more or less prominence were selected to supervise it, with no regard whatever to their qualifications as teachers—using a spike where a shingle nail is needed, or a shingle nail where a spike was necessary. To be a successful supervisor of music, *much more depends* upon *ability to teach* than *extensive knowledge*. The great majority of successful directors of public-school music have first been successful as regular teachers, graduating from the ranks of regulars to the advanced position of specialist. He must not alone have the ability to teach, but must also be able to do *normal* work, to instruct his regular teachers, and to direct and inspire them with a love for their work.

Having now a good nail, of requisite proportions, and rightly started, we come to the work of the *regular class teacher*. It is essential that she should have such devotion to her chosen profession that the direction of and the inspiration from the special teacher may not fall as “ seed in stony ground.” To be a good teacher she must be a good student, carefully noting the lessons by her superior, have a clear conception of his idea and method ; then by intelligent and persistent drilling of pupils, individually, in groups, and in concert, so impress the point in hand as to make it clear and lasting. The pupils must become *independent* music readers ; the teacher must see to it that they do.

The tendency is toward too much class drill and not enough individual work. Through class drill pupils necessarily become *dependent*. Rapid individual tests, *at sight* or *first effort* drill, are necessary, and the regular teacher must be a good manager, must have almost unlimited resources to secure it. A very common mistake made by surface teachers is to *help* pupils, instead of directing them to intelligently master it themselves, making them thereby dependent in place of independent. She should be able to sing melodies for pupils to represent—original melodies, generally—and be able to tell at a glance whether correctly or incorrectly represented ; sing for, not with, the pupils. Summing up, she must have a clear conception of *what to teach*, and know *how to teach* it.

DISCUSSION.

MR. KAPPES : I do not believe in specialists in music. I would compel every teacher to become a thorough musician. Martin Luther was a musician as well as theologian ; he would have no man preach the Gospel unless he was skilled in music. Pestalozzi would have every teacher trained in music. The normal schools of Europe make music compulsory. The government will not issue a diploma unless the teacher has passed the proper examination in music. Music is now regarded as a more substantial study than formerly, and this country will finally become the leader of music in the world.

MRS. J. POWELL RICE, Los Angeles : California has a law making music a regular study in the schools, and the State normal schools require their teachers to pass an examination in music before they can get a certificate to teach.

MR. N. COE STEWART : I think the regular teacher should do the work. The supervisor must visit, see that the work is done properly, and encourage and instruct teachers where necessary. Every pupil should be able to sing alone. If he has been instructed properly, and has tried to do the required work, he will be able to sing intelligently.

MR. DE COATE, of St. Louis : All cannot learn to sing ; neither can all teachers learn to teach music.

MR. STEWART : I know a lady who could not tell one tone from another, who finally became a splendid teacher ; and I knew a boy who for several years sang the same tone all the time, who finally learned to sing solos well in public.

MISS M. HOFER spoke of the danger of laying too much stress on the mechanical part of singing, to the neglect of musical expression.

MR. HOLT : Too much teaching of songs has been done, and the elements have been neglected.

COMMISSIONER WM. T. HARRIS : I have seen too much notation taught to young children. The child should be taught beautiful airs at first.

MR. HOLT : Dr. Harris has evidently seen poor teaching. At first there should be no mechanical exercises used. We must establish the tones as they exist in nature. We must teach the real things in music before we teach the characters which represent them. There is a better way than the old way of teaching a lot of "signs" which are meaningless to the pupil before the things they represent are first taught.

DR. HARRIS : I am in sympathy with this matter of teaching music in schools. And although it is often poorly taught, it is doing a vast amount of good.

MISS HOFER : The artistic singing of songs is often neglected for the ordinary work of reading music.

DR. GEO. F. ROOT : Music is largely an imitative art, but to build up a system of teaching on this basis is wrong.

MR. GRIGG : We cannot make artists of our pupils. It is not so much a question whether the pupil enjoys it, but whether he is able to do the necessary mechanical work in order to learn to sing from the notation.

MR. S. W. STRAUB : There are different departments in music. Pleasing the pupils is one thing, and teaching them to understand the higher class of music is another, but the mind must be trained to recognize the tones and their relationship, and this requires mechanical work.

Systems of musical notation.

MR. E. W. NORSE, of Chicago : I have tried the tonic-sol system, in a quiet way, but I did not call it by that name. The teachers fell in line and liked it. We used it in Englewood in the first four grades. The pupils who had spent four years on sol-fa did more work in the fifth year on staff than those in Chicago who had been brought up on staff alone.

MR. MONTZ, of Chicago : I am in favor of the sol-fa system. We can teach better by using tonic sol-fa first, and afterward teaching the staff.

MR. GLOVER : The aim seems to be, by the sol-fa-ists, to read from the staff in the end. To use the tonic sol-fa to aid in this, is what I cannot understand. To be able to cultivate the ear in music, no notation can assist. If the staff cannot be used as a means to learn, I would like to have the objections of the staff pointed out.

MR. HOLT : We will have no need for a new notation if we only investigate the subject according to the established pedagogical laws of teaching other branches, and teach music according to these laws. I have great respect for tonic sol-fa methods, for they are the same as used by the movable-do teachers, but we do not need its written characters. Music is the same whether sol-fa, or buckwheat notes, or the staff is used.

MR. BARRON, of Canada : The tonic sol-fa is the most scientific system, and the time will come when many of you will change your minds and use the sol-fa notation.

"What pupils, if any, should be excused from the musical exercises of the schoolroom?"

MR. WATT : Some pupils come from homes where they have private instruction, and are able to sing artistically alone. These should be excused where the singing in school is poor and out of tune.

MR. HOWARD : I do not object to having my children sing in schools where they sing out of tune. It does them no harm, for they have the scale so well fixed in their minds that it does no serious harm.

MR. H. H. JOHNSON, Mansfield, Ohio : Sometimes, when the voices of boys are changing, I have excused them.

MR. HOWARD : It would not harm the voice to sing while undergoing a change, if the boy would sing within his proper compass, and not try to sing too high or too low.

MR. STEWART : I would not excuse from singing except on account of sickness.

MR. S. H. LIGHTNER : If a physician said it would be injurious for the pupil to sing on account of throat difficulty, he should be excused until the physician considered it safe for him to sing. If the pupil has formed a love for singing, he usually wants to sing at such times, and is proud to be able to sing bass. If the teacher would occasionally express in school a desire for bass singing, and hope that some of the boys will soon have new voices that can sing a real bass, then when the change of voice comes the boys will be anxious to sing this part, and no one will want to be excused, if this matter is treated intelligently by the teacher.

REGINA M. CARLIN, Supervisor of Music in Public Schools, St. Louis, Mo. : My experience in teaching and in attending musical conventions leads me to the conclusion that too much stress is laid upon methods and systems for instruction in vocal music. The successful teacher carries good methods unconsciously into his teaching. He brings his subject clearly within the understanding of his pupils, and uses such means as are suited to the condition of his pupils ; and by sensible exercises leads them step by step until they are able to sing with others, or alone. Faulty steps are pointed out and corrected, until the pupils learn to avoid them through good habits. A good foundation for musical knowledge is laid, and upon this may be built a permanent and harmonious structure.

As the art of breathing well is fundamental to good singing, the pupils should receive due training in this matter, especially as it is also important for sanitary effects. The lungs in singing have to furnish the air necessary to produce tones, as the bellows furnishes the wind to organ pipes, without which there could be no musical sounds produced by the keyboard. Children should be trained to take the tone desired before the breath is expelled from the lungs, and taught how to hold or prolong the same sound, also different sounds in succession.

The lungs and throat must be made to grow strong gradually, as the voice is developed into good singing tones. The children should be led to express feelings in their singing tones.

Vocal music should occupy an important place in the school exercises. It is the grand medium for developing the moral and religious feelings, and of communicating happiness to others.

DEPARTMENT CONGRESS OF TECHNOLOGICAL INSTRUCTION.

SECRETARY'S REPORT.

FIRST SESSION—WEDNESDAY, JULY 26, 1893.

THE Department Congress of Technological Instruction was held in Hall 24 of Memorial Art Palace. The first session was called to order by General Francis A. Walker, Chairman of the department, at 9.30 A.M., Wednesday, July 26. The business of the Congress was begun with an opening address by the Chairman.

Professor Robert H. Thurston, Director Sibley College of Mechanical Engineering, Cornell University, Ithaca, N. Y., followed with a paper on "Technological Schools: Their Purpose and its Accomplishment."

This paper was followed by a discussion in which the following persons took part: Professor R. H. Richards, Boston; President Henry T. Eddy, Terre Haute, Ind.; Mrs. Charles Henrotin, of Chicago; Professor Waterman, of the University of Chicago; also by Professors Allen, Thurston, Woodbury, and F. O. Marvin, Lawrence, Kan.; and Mr. Boos-Jegher, from Switzerland.

SECOND SESSION—WEDNESDAY, JULY 27, 1893.

The department assembled at 9.30 A.M.

Professor John M. Ordway, Tulane University, New Orleans, presented a paper on the "Training for Scientific Professions," which was read by Professor George F. Swain.

President D. C. Gilman, of Johns Hopkins University, on being called upon by the Chairman, gave a brief historical account of the Sheffield Scientific School of Yale University.

The next paper, "Educational Value of Exact Measurement," was by Professor Alfred M. Mayer, of Stevens Institute of Technology, Hoboken, N. J.

A paper was presented on "The Educational Value of Applied Mathematics, including Engineering," by F. R. Hutton, Professor of Mechanical Engineering, School of Mines, Columbia College, New York.

This subject was discussed by Professor Robert H. Thurston, of Sibley College, Cornell University.

United States Commissioner Hon. W. T. Harris followed, speaking upon the importance of the discussions upon the educational values of subjects taught in the technological schools.

THIRD SESSION—FRIDAY, JULY 28, 1893.

The meeting of this department was called to order by the Chairman at 9.30 A.M., Friday morning.

The first paper was by Professor R. H. Richards, of Boston, Mass., on "Shop-Work and Drawing as Means of Developing Slow Pupils."

This subject was discussed by Professors Woodward, St. Louis; Baker, of the University of Illinois; and General F. A. Walker.

Professor G. Lanza, of the Massachusetts Institute of Technology, Boston, presented a paper, in which he considered "The Educational Process of Training an Engineer" for the several departments of engineering.

This subject was discussed by Professor C. M. Woodward, of St. Louis; Professor Shattuck, of University of Illinois; Dr. W. T. Harris, United States Commissioner of Education, and others.

Henry T. Eddy, President of Rose Polytechnic Institute, Terre Haute, Ind., read a paper on "The Educational Value of Applied Mathematics, and Engineering."

This subject was discussed by Professor G. Lanza, of Massachusetts, and Professor Woodward, of St. Louis.

Professor De Volson Wood, of Stevens Institute, followed with remarks on the same subject.

LIST OF PERSONS ACCEPTING THE OFFICE OF HONORARY VICE-PRESIDENT OF THE DEPARTMENT CONGRESS OF TECHNOLOGICAL INSTRUCTION.

FINLAND.

Prof. Ernst Qvist, Director of Polytechnic Institute, Helsingfors.

FRANCE.

M. le Colonel Laussedat, Director of the School of Arts and Trades, Paris.

M. Charles Lucas, Architect, Paris.

M. L. Masson, Engineer School of Arts and Trades, Paris.

M. Paul Melon, Paris.

M. Haton de la Gonpillière, Inspector-General of Mines, National Superior School of Mining, Paris.

GREAT BRITAIN.

ENGLAND.

A. H. Gilke, Master Dulwich College, London.

J. H. Reynolds, Secretary of the Manchester Technical School, London.

J. C. L. Sparkes, City and Guilds South London Technical Art School, London.

J. Wertheimer, B.Sc., Head Master Bristol Merchant Venturers Technical School, Bristol.

Thomas R. Ashenhurst, Head Master of Textile Department, Bradford Technical School, Bradford.

H. S. Hele-Shaw, University College, Liverpool.

SCOTLAND.

Henry Dyer, C.E., M.A., D.Sc., Glasgow.

Prof. Ewing, F.R.S., Dundee and District Association for Promotion of Technical and Secondary Education, Dundee.

JAPAN.

Mr. Koyama Kenzo, Tokyo.

UNITED STATES.

ALABAMA.

Dr. William LeRoy Brown, President Alabama Polytechnic Institute, Auburn.

W. H. Council, President State Normal and Industrial School, Normal.

ARIZONA.

Dr. Merrill P. Freeman, President University of Arizona, Tucson.

ARKANSAS.

Dr. E. H. Murfee, President Industrial University, Fayetteville.

DISTRICT OF COLUMBIA.

Prof. Cleveland Abbe, Weather Bureau, Department of Agriculture, Washington.

GEORGIA.

Dr. H. C. White, President Georgia State College of Agriculture and the Mechanic Arts, Athens.

INDIANA.

Dr. Henry T. Eddy, President Rose Polytechnic Institute, Terre Haute.

Dr. James H. Smart, President Purdue University, Lafayette.

IOWA.

Dr. W. M. Beardshear, President Iowa Agricultural College, Ames.

KENTUCKY.

Dr. James K. Patterson, President Agricultural and Mechanical College, Lexington.

LOUISIANA.

Dr. Brown Ayres, Professor Tulane University, New Orleans.

H. A. Hill, President Southern University, New Orleans.

MAINE.

Dr. M. C. Fernald, State College of Agriculture and Mechanic Arts, Orono.

MARYLAND.

Major H. E. Alvord, President Maryland Agricultural College, College Park.

MASSACHUSETTS.

- Dr. Homer T. Fuller, President Worcester Polytechnic Institute, Worcester.
 Dr. H. H. Goodell, President Agricultural College, Amherst.
 Dr. N. S. Shaler, Dean Lawrence Scientific School, Harvard University, Cambridge.

MICHIGAN.

- Dr. Oscar Clute, President State Agricultural College, Lansing.
 Dr. M. E. Wadsworth, President Michigan Mining School, Houghton.

MISSISSIPPI.

- John H. Burrus, A.M., President Alcorn Agricultural and Mechanical College, Rodney.
 Gen. S. D. Lee, President Agricultural and Mechanical College, Agricultural College.
 R. S. McCulloch, Pass Christian.

MISSOURI.

- Inman E. Page, President Lincoln Institute, Jefferson City.

NEW HAMPSHIRE.

- Dr. R. Fletcher, Director Thayer School of Civil Engineering, Dartmouth College, Hanover.

NEW MEXICO.

- Hiram Hadley, A.M., President Agricultural College, Las Cruces.

NEW YORK.

- Prof. A. S. Bickmore, American Museum of Natural History, New York.
 Dr. John H. Peck, President Rensselaer Institute, Troy.

NORTH CAROLINA.

- Alexander Q. Holladay, President Agricultural College, Raleigh.

OHIO.

- Dr. William H. Scott, President State University, Columbus.
 Dr. Cady Staley, President Case School of Applied Science, Cleveland.

OKLAHOMA.

- R. J. Barker, C.E., President Agricultural and Mechanical College, Stillwater.

PENNSYLVANIA.

- Dr. George W. Atherton, President State College, State College.

SOUTH DAKOTA.

- Dr. Lewis McLouth, President Agricultural College, Brookings.

UTAH.

- J. W. Sanborn, B.S., President Agricultural College, Logan.

VIRGINIA.

- Dr. John W. Mallet, Professor University of Virginia, Charlottesville.
 Dr. J. M. McBryde, President Agricultural and Mechanical College, Blacksburg.
 Gen. Scott Shipp, Superintendent Virginia Military Institute, Lexington.

WASHINGTON.

- George Lilley, President State Agricultural College and School of Science, Pullman.

WEST VIRGINIA.

- J. E. Campbell, Ph.B., Principal West Virginia Institute, Farm.

TECHNOLOGICAL INSTRUCTION.

OPENING ADDRESS OF THE CHAIRMAN,

GENERAL FRANCIS A. WALKER, PRESIDENT OF MASSACHUSETTS INSTITUTE OF TECHNOLOGY, BOSTON.

THIS, so far as I am aware, is the first general conference ever called to discuss the whole subject of technological education. Delegates from the "Colleges of Agriculture and the Mechanic Arts" established in the United States under the act of 1862, have for some years met in annual convention to consider matters of common interest; but in these conventions agriculture has been so far the predominant topic as to throw other departments of instruction into the shade.

It was well that this present conference should be called. It was high time that the friends of technological education should assemble, to compare their experiences, to inquire what is lacking or what has been ill-done in the remarkable development that has taken place during the last twenty-five years, and to take counsel together regarding the means for completing, for perfecting, for strengthening this system of public instruction. The representatives of the classical culture long ago recognized the importance of mutual conference, and many and earnest have been the deliberations and debates in which delegates from colleges and universities have sought to find out the way by which they might do greater good to the community and the world, in their devoted and self-sacrificing exertions on behalf of education. Technological instruction, from its newness, from the sporadic character of the enterprises with which it has been connected, from the inherent gravity and complexity of its problems, has even greater need of consultation and conference among its teachers and its friends.

It is said that nearly or quite one hundred institutions, in America alone, are now offering instruction in the applications of the sciences to the useful arts. In Great Britain, if my information is correct, the number of science schools and technical colleges is not much smaller. With but a few exceptions, this vast body of educational agencies represents the developments of only a quarter of a century. Some of these schools have been founded under the protection and patronage of great universities; others have been the outcome of independent effort. Some have sought to cover the whole ground of technological instruction; others have confined themselves to comparatively limited fields. Some have from the first achieved a decided success; others are still struggling with poverty of means, with embar-

rassments due perhaps to a false start, or with the inherent difficulties of their respective problems. Surely, in such a situation, it is eminently wise that the representatives of technological education should assemble in general convention, to deliberate upon the means of advancing their common object; to inquire what restrictions, if any, should be placed around the field of their activity; to learn, each from others, what measures may be taken to promote the efficiency with which these schools shall prepare their pupils for the severe trials of professional practice; and, last of all, and most of all, to search deeply into the question how technical instruction and training may be made truly educational, in the largest and best sense of that word, so that the schools shall render the greatest possible service, not merely to industry and the arts, but also to character and citizenship, to mind and manhood.

So strongly has the importance of this subject, in view of the recent very remarkable extension of the class of schools referred to, pressed upon those who have framed the plans for this general conference of education, that it has been decided to allot three morning sessions to the subject of technological education. Of these, the first, the present session, has been assigned to the discussion of the question, how far the technological instruction of to-day answers its primary requirement, the preparation of young men to enter upon the practice of the scientific professions; what failures or deficiencies have been discovered as the result of an experience wide if not long; what are the causes of any failures or deficiencies which may be found to exist; and what measures should be taken to complete and perfect these schools upon their purely professional side. The two remaining sessions are to be devoted to the consideration of the actual and the possible work of technical schools as instruments of general education. For the purposes of the proposed discussion regarding technical education, the present occasion is most felicitous, not merely in the presence of so large a number of distinguished educators, attracted hither by the wonders and the glories of the Columbian Exposition; not merely in the inspiration afforded by this great object-lesson of industrial art, the greatest which has ever been devised by the ingenuity of man, ordered and arranged by his taste and skill, and executed by his enterprise and energy; but also, and perhaps even most of all, by the presence here, in the courts of the department of liberal arts, of the large and comprehensive exhibits made by the technical schools of our own and foreign lands. All that may be said here must be taken in connection with the work of students, the schemes of courses, the apparatus of instruction, shown in the galleries of the main building of the Exposition. Whether in their professional or their educational aspects, these exhibits should be deeply and carefully studied by every educator who would form an intelligent and candid opinion as to what the schools of this class are really doing.

In the preparation of the programme for these sessions, it has not been

sought to secure a series of elaborate and exhaustive papers which should occupy the time available for the consideration of the topics proposed. It has been the wish of the management that the papers read should be comparatively brief theses, presenting the several topics in a suggestive rather than in a comprehensive manner, with a view to invite oral discussion and to promote the face-to-face comparison of individual views and experiences.

In such a conference as this, the most that is to be expected of the presiding officer is that he shall from day to day arrange and provide for the presence and the participation of the largest number of those whose positions and services in the cause of education, technical or general, qualify them to add to the interest and to the value of the discussion. Yet, in this first conference on the subject of technological education, I cannot forbear to avail myself of my privilege as chairman to mention certain questions which press for consideration in connection with this department of instruction.

First. How far those who control and conduct schools of technology are bound to qualify and modify their courses of instruction with reference to the fact that their students are, as a rule, not the graduates of colleges, and that the training they receive in these schools must, therefore, be the only training, within the college grade both as to age and as to mental development, which they are to enjoy before entering upon the serious duties of life. The fact which has been alluded to was clearly not in contemplation of those who first founded our schools of technology, if, indeed, it is not in flat contradiction of what they then anticipated. It seems plain from Mr. Abbott Lawrence's deed of gift to Harvard College, for the endowment of the scientific school which bears his name, that it was his expectation that the students would be largely college graduates; yet, in the latest catalogue of that school which I have seen, among one hundred and eighty-one students only two are graduates of colleges, only one of a classical college. At the Massachusetts Institute of Technology the number of college graduates ranges between forty and fifty. These students, therefore, form only between four and five per cent. of the total membership of the school. A slightly larger proportion, I believe, is maintained at the Sheffield School at New Haven. In view of this development of schools of technology, we are bound to inquire whether their curriculum should not be more or less qualified and modified to meet the fact that their pupils are to receive no further and no other college training.

Second. The second question I would venture to suggest is, how far the judgment of practitioners of technical professions should conclude or should influence the teachers and administrators of technical schools. Probably the first thought in any man's mind would be to the effect that the best advice in regard to technical education would come from those

engaged in the practice of the corresponding scientific professions. Yet it appears to me that this is a subject which should be carefully discussed, and that it is not a matter of course that the first thought on the presentation of the question is correct.

Let us make the issue a little more specific. Engineering education, for example—is it primarily and principally an engineering or an educational problem? Is the engineer, who is not and has never been a teacher, necessarily a better judge than a teacher who has never been an engineer? Of course it is not intended here to intimate that the opinions of practicing engineers regarding engineering education may not be of great value; that, in any case, they are not evidence which should be carefully considered by those who are to judge of any question which concerns engineering education. But who is to be *the judge*—the engineer or the educator? Whatever the professional standing of any engineer, are his views conclusive upon the faculty of an engineering school?

My own opinion is that engineering education is primarily and principally an educational and not an engineering problem; and that the judgment of a strong and experienced teacher who has studied that problem is more likely to be right than that of any engineer without experience as a teacher, however eminent he may be in his profession.

Third. A third question of importance in the development of technical education is whether or not a substantial connection with a university constitutes an advantage. Much might be said on both sides of this question. Admirable examples are offered us of technical schools under the protection and patronage of great universities, and of detached technical schools which have steadily and successfully pursued their way, alike without hindrance and without help from a corporation or a faculty having other interests as well as their own in charge. Without undertaking to discuss this question in full, I will venture to make two remarks which it seems to me should be considered at the very outset of such a discussion.

No advantage which a technical school can derive from association with a university, through the ability, experience, and comprehensive views of the corporation of such a body, will compensate for any lack of moral and intellectual sympathy with the purposes of technical education, any lack of respect for the studies and exercises of the technical school. Unless the members of the corporation of a university thoroughly believe in technical education, unless they are devoted to its objects, unless they entertain a hearty and unaffected respect for the kind of man who is to teach and the kind of man who is to receive the teaching, a technical school will derive only damage from such an association. Again, no advantage which the students of a technical school might conceivably derive from the large and varied endowment and equipment of a great university, and from companionship with bodies of students in other pursuits than their own, will compensate for the loss of scholarly impulse and the injury to self-respect

which will inevitably be sustained, unless the general spirit of the university be high, manly, and devoid of snobbishness. If the technical students, through association with a university, are to come habitually in contact with young men who have not seriously taken up the work of their lives, who regard college merely as a place in which to have a good time or to indulge in sport or dissipation, who have no settled purpose and no manly aims, and especially if the technical students are to come habitually in contact with young men who regard labor as degrading, who look upon the rough clothes and the stained fingers of the laboratory and the workshop as badges of inferiority in character or in social standing, then a technical school will derive harm, and only harm, from such an association.

Fourth. A fourth question which needs to be very carefully considered by all friends of technological education is, how far immediate professional success is to be weighed against ultimate professional success. It is, of course, an immense advantage to the pupils of technical schools, and to their parents and friends, that the young graduate should be able at once to earn his livelihood, even if it be an humble one. In this day, when social necessities are so grinding, and when it is so hard to start a son in life, that advantage is not to be despised or neglected. Yet there is always a wide field of choice open to those who control technical schools, as to the degree in which they will offer to their pupils studies and exercises the value of which will be most fully realized in the first few years after graduation, or studies and exercises whose value will be increasingly felt through the whole course of their professional career, and which will qualify them, in larger and ever larger measure, for positions of responsibility and trust with advancing years. It would be strange, indeed, if in the infancy of technological education many mistakes had not been made in this matter, predominantly on the side of assigning too much value to studies and exercises of immediate utility. I cannot but believe that with larger experience, and with more of conference among those who administer technological education, there will be a decided movement in the direction of subordinating the acquisition of the knacks of a trade and mere technical devices to the study of principles; and that, even in the applications of principles, valuable and invaluable as these are, reference will be had rather to their effect in giving a greater mastery of the principles themselves, than to their immediate utility in professional practice. Nay, more, I confidently believe that, even in the study of scientific principles, a continually increasing regard will be paid to their influence in expanding the mind, enlarging the views, elevating the aims, and strengthening the character of the pupil.

Fifth. An important question presenting itself to those administering technological education is in regard to the expediency of introducing some so-called liberal studies into all technical courses. I have already

adverted to the fact that the great majority of students of technology are not graduates of colleges. But aside from this, and even although all such students were college graduates, it would still fairly be a question whether some degree of philosophical study, especially in history and political economy, should not mingle day by day with the scientific studies and exercises which form the primary subjects of instruction and training in a technical school. For myself, I am much disposed to believe that that technical school will best discharge its duty to its pupils and to the state which gives to its students, in addition to those studies and exercises which will make them exact and strong, some measure, also, of those studies and exercises which will tend to make them, at the same time, broad and fine.

Sixth. The last question which I would suggest has regard to the desirability and feasibility of securing uniform requirements for admission to schools of technology. The classical colleges within New England, and perhaps over a wider region, have long been working toward the end of common rules and conditions as to entrance; and their efforts have met with a high degree of success, not only in a loyal support, by all the colleges, of the scheme of examinations adopted, but also in the manifest and marked improvement of the preparatory schools most largely contributing to their membership. It is fairly a question whether the time has not come for associated action by the schools of technology in the same direction.

I will only protract these remarks by referring to a single subject, and that is the spirit in which it behooves the representatives of technological education to meet and to answer the accusation of certain critics that the technical applications of science are incompatible with that *disinterestedness* which it is said, and truly said, is essential to the highest results in education. Those who indulge in flings regarding the lack of disinterestedness in technological education are generally the persons who have withstood at every step the introduction of chemistry, physics, and natural history as substitutes for the older studies of the college curriculum. Beaten at all points in their futile opposition to the spirit of the times, and overwhelmed by the abundant testimony offered as to the effects of science study in making young men as modest, loyal, fine, and pure as the best products of the classical culture, and withal more exact, resolute, and strong, these gentlemen are making their last stand against the movement of the age by denouncing the technical applications of science as interested and mercenary, and therefore as unsuited to be the means of promoting true scholarship. They are compelled to admit that the pursuit of technology is useful to the community in a degree which makes it not less than absolutely necessary that hundreds and thousands of young men shall be trained in science and in the applications of science to the useful arts; but they are unwilling that these young men should

be considered as scholars in the same sense and of the same degree of merit as graduates of schools whose studies and exercises are not subject to the imputation of being of any direct or immediate use. It would please those gentlemen more if, while the college graduate receives his scholarship medal of pure gold, the graduate of the school of technology should have his testimonial stamped upon a circlet of some baser metal.

Now, it seems to me, we are bound to resent and repel this imputation, without terms and without ceremony. We assert that the disinterestedness of study does not depend upon the immediate usefulness or uselessness of the subject matter, but upon the spirit with which the student takes up and pursues his work. If there be zeal in investigation, if there be delight in discovery, if there be fidelity to the truth as it is discerned, nothing more can be asked by the educator of highest aims. A young man who is earnestly laboring to prepare himself for an honorable and beneficent career in life may be disinterested in every sense in which that term can be used with approbation. Our critics have been driven to a pretty pass, indeed, when the only ground upon which they can make a stand is the practical usefulness of technical studies. These gentlemen appear to have the same unnecessary fear of fruit which Macaulay, in one of his famous essays, attributes, probably with some exaggeration, as his custom was, to the old philosophers. Their concern is needless. So long as the students of technology bear themselves with the same earnestness and scholarly devotion which has characterized them as a body since this system of instruction was inaugurated, the cause of education will suffer no harm. There is a wonderful virtue in science to make and keep its disciples truthful and faithful; and at no distant time it will be fully recognized by all teachers that the technical applications of science directly add to the value of science study by giving a more direct object to effort, and by heightening the pleasure which the pupil feels at each step of his scholarly progress.

TECHNOLOGICAL SCHOOLS: THEIR PURPOSE AND ITS ACCOMPLISHMENT.

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THE purpose of any institution of learning, whether of high or of low degree, is, if I understand it aright, to contribute an exactly defined amount to the education of the boy or girl, man or woman, who may enter its doors. It should have a prescribed plane and area of work; it should have a settled method; it should be expected to apply this method, within its own field, to the presentation, by the best of known processes,

of the most important facts and principles of those branches of learning which constitute its special province.

The education of the boy or the girl, of the man or the woman, may be said to consist of so much of knowledge of the sciences, the literatures, and the arts as the individual finds it practicable to obtain by the application of time and thought and study, in hours set apart from those of toil and compulsory occupation. Its purpose is two-fold : to so exercise the mental faculties and powers as to confer upon the mind capacity for easy and extensive gain of both culture and knowledge ; and to endow it with learning and wisdom—for these are not the same. Culture and wisdom are the highest fruits of education, grafted upon natural talent and power, and, well developed, constituting such character as has been respected and admired in every age of the world. Knowledge is needful and learning is admirable and desirable to make life successful and to yield substance for enjoyment ; but apart from culture and wisdom, they fail of their purpose, and life falls short of its aim.

From university to primary school and kindergarten, throughout the whole range of human knowledge and of systematically given instruction, every element of the educational structure has its own special place and purpose, contributing to the final and complete result ; but the plan and the scope of these elements may differ widely. The university, if it be a real university, must present to its students the opportunity to become acquainted with the elements, at least, of all the sciences, all the literatures, and all the arts which contemporary life and modern civilization rest upon or imply familiarity with. The primary school usually only makes a beginning, as do all the elementary schools, in teaching the child how to begin to learn by study, and furnishes the first necessary tools for that trade. The kindergarten teaches the child how to learn by observation and direct experiment ; it is the child's laboratory of applied science. But every school and every college and all universities should combine the methods of the conventional primary school with those of the kindergarten. Study, observation, experimental processes and methods must all unite to produce the most perfect work, in primary school, secondary school, college, and university alike, and whether giving the elements and the tools of education, the mental exercise required for higher work, or the facts and data and principles of the sciences be the purpose of the school.

But the man must be educated for his coming life, and the lives of men differ. Education, therefore, while having the same general object with all—the cultivation of the powers of the individual and the communication of knowledge and culture—must be given somewhat different directions, and must cover somewhat different fields, for different men, if it is to do its most perfect work on every individual. The man who is independent of compulsory labor, and who may, with reasonable confidence,

look forward to a life of his own choice and making, will desire culture, learning, and accomplishments. The youth growing up in the home of the workingman, without fortune or reasonable expectation of ever securing even a competence, compelled to look forward to a life of constant and perhaps arduous labor, subject to a competition from neighbors, or, often, from workmen thousands of miles away, needs, first of all, that knowledge and training which will enable him to hold his own and make sure of subsistence and freedom from privation for his family and himself. The average citizen, with such capital as a generation or two of industry and skill may have laid aside for him, free to give time and money for such education as can be given him before the approach of manhood brings with it the cares and responsibilities of his later working life, seeks, if he be wise, first the insurance against failure in his vocation, next such culture and such knowledge as he may gain therewith, as a part of or in connection with his preparation for his life's work. Finally, the well-to-do citizen possessing competence, though not wealth, seeks for his son or his daughter a scientific training for a profession, and a culture befitting his station in life; the first the essential, the last the most desired. Every citizen asks the privilege and claims the right to secure as much of the necessary preparation for the future of his life, and as much of that culture which *is* life, as time, means, and natural capacity may permit him to fairly demand.

It was long ago recognized by statesmen and men of mind that one of the first duties of the state is to make sure of the fitting education of the people of the state by providing elementary schools for all who choose to avail themselves of them. It was also early admitted that a system of useful elementary education presupposes higher institutions of learning in which the teachers of those schools may be prepared for their work, and in which all the learning of the time may be preserved and given fullest opportunity for extension and expansion. It is now well understood by all intelligent men that the state must, to insure the highest prosperity and enlightenment of its people, directly or indirectly, by legislation or through the stimulated or spontaneous liberality of its wealthy men, superpose secondary schools upon primary, colleges upon the schools, and place universities at the apex of the structure. The great States of the West have their State universities; the old States of the East have their Harvard and Yale and Brown and Amherst and Williams, at once monuments to great and statesmanlike citizens among the wealthy classes, and capstones of their educational systems. No State so poor and sparsely populated, no statesman so weak and narrow, as to refuse to build to the very peak of the pyramid. In fact, it is often asserted that the true statesman, like Washington and Jefferson, Madison and the Adamses, makes the university the foundation, the secondary schools the body, and the primary schools the supported apex of the system; the whole resting

safely and firmly, if properly constructed, upon a solid and broad foundation of deepest wisdom and greatest learning.

The state must build foundation as well as superstructure, and every part of each, if completeness and solidity and permanence are to be made sure. Only the state, as it seems to me, can maintain permanently, certainly, and in efficient, continuous, and steady operation, any single element of this organism; and only the state can construct and maintain it in symmetry and completeness, and build solidly and durably the whole great structure. Private contributions to this purpose and object are too uncertain, irregular in amount, and sporadic in time and distribution, to give that regularity of income, or that certainty of any income at all, which is an essential element of steady and productive work. Regularity and sufficiency of income, assured by a fixed taxation, as illustrated in our Western States, in many instances, is probably the best insurance of life, of continuous growth, and of uninterrupted usefulness of the educational system. Private endowments are usually either unequal to their purpose at the start, or are promptly overburdened if the enterprise is successful, and almost never permanently reliable and regularly useful. At the present time, also, the continuously decreasing rate of interest on good securities, and the constantly increasing difficulty of finding safe investments, make the duties of the committees on finance of our endowed institutions continually more and more arduous and unproductive. The steady fall from the seven per cent. of a few years ago to the six per cent. of later years, and to the five per cent. and less of to-day, and the resulting anxieties and financial difficulties, simply indicate the beginning of a continuous reduction in value of invested funds, and the fact that the time must come—perhaps soon—when returns on invested capital will become so small as to make it hardly wise to rely on such sources of income, and such as to compel the use of the principal in such cases, and reliance upon continual additions of capital through the liberality of capitalists to whom the same cause makes it less and less desirable to hold a surplus. But every institution doing good work will very possibly find it necessary to its own existence and permanent usefulness to become in some way incorporated into the system of the state, and to secure safe support from the state treasury, or, as the only alternative, to rely mainly on tuition fees exacted from its own students, thus competing at a great disadvantage with the state-supported institutions charging little or nothing for the same grade of education.* In fact, nearly every large and strong school, college, or

* The following facts give some idea of the magnitude of the task to be assumed and of the impracticability of securing its performance by private effort, even were it possible that private liberality and private activity could give the system form and coherent and symmetrical growth:

The United States constitute a nation of about 65,000,000 of people. Of these, three-fifths—about 40,000,000—are minors, and a large fraction of them demand or need instruction in schools of higher and of lower degree. In their education, 300,000 teachers are engaged in 200,000 schools, and about \$100,000,000 per annum paid for the work. The States usually expend about \$25 per capita, and some of the cities above

university famous for good work, and especially among the technical institutions, is coming to be State-supported in greater or less degree. Some of the most successful and famous of all are exceptions to this rule; but whether this can be said a generation hence may be gravely doubted. Contributions to this noblest of philanthropic works will undoubtedly be larger and more numerous than now; but interest will probably fall to two per cent., or perhaps lower, and a million of dollars will do but little in the support of higher education.

CULTURE, and SCIENTIFIC TRAINING for a practical end, are the two purposes of all schemes of education of the individual citizen. But their order and extent, and their relative importance and magnitude, must depend upon the position in life of the individual; rather, upon his choice or their natural and logical sequence. The proper and logical order would be, first culture, then professional training; first the awakening and strengthening of the mind, next its application to the purposes of culture, then its practical employment in acquiring and practicing the chosen vocation, whether that of the engineer who builds, the artist who adorns, the man of letters who entertains and enlightens, the jurist who interprets the law, or the physician or the clergyman who ministers to bodies or to minds diseased, or even that of the man of leisure whose profession is that of the accomplished man of a society of culture. Every intelligent citizen desires for his children so much of culture as his time and means permit him to give them; his means determine to what extent he must abridge the culture studies and compulsorily antedate the best time for entrance upon the studies having practical application in the life of the bread-winner. For people of wealth, twenty years of culture, five of professional study, may be none too extensive a course; but the citizen of

\$85, for elementary instruction alone. The Federal government has given over 150,000,000 of acres of public lands to this object, and the States have often assigned their first and largest apportionments of their own public lands to their departments of education. In some cases single institutions have greatly profited by this policy; but, as a rule, education is conducted, in the higher departments, with a most frugal hand.

Private liberality has as yet done more for individual endowments, generally, than the public. For example, in New York the State university—Cornell—receives as the share of the State under the Morrill Act about \$20,000 a year from the half-million and less obtained by sale of land scrip; it receives from the Cornell Endowment, which was produced by the discreet holding and sale of the lands obtained on the same scrip—bought by Ezra Cornell and given to the university—over \$300,000 per annum from the \$5,000,000 or more privately given it; and it has still enough land for sale to make about 5,000 good farms. Harvard, Columbia, Yale, and Princeton and Johns Hopkins have larger incomes from private endowments than have the institutions supported by the States.

The governments of Europe are wiser and more liberal than our own States. Prussia has erected at Charlottenburg the grandest technical institution in the world, at a cost of about \$4,000,000. Saxony has erected a whole system of trade and polytechnic schools; and Zurich has invested, safely and profitably, some millions in her great university, of which the laboratories alone have cost about a half-million dollars. With a taxed valuation of \$6,500,000,000, the State of New York has contributed—and only within the year—just \$50,000 to its university, under the shadow of the millions given it by its private benefactors. Michigan has given about \$2,000,000 to her university and technical schools; she also gives a regular tax levy of large amount. Wisconsin gives a half-million in buildings and a tax levy of about \$75,000 per annum. Minnesota has given to the same cause about \$750,000 and a tax levy of about \$50,000; California about \$1,000,000, and a perpetual State tax of one-tenth of a mill, now yielding \$100,000 a year; and other States, in a similar manner, are just beginning the work which has been going on in Europe for a century.

moderate means must at least terminate his son's studies at twenty-one, and if he is to have a professional training, it must commence at sixteen or seventeen ; while the so-called " industrial classes " must send their offspring out into the world to earn their own living while still children. It thus happens that the education of the people must, in the main, be such as will give them technological training, with, incidentally, so much of culture as can be offered without detriment to their preparation for the work that must probably be theirs for life. We have here the reason at once for a complete and perfect system of education by the state, and for the organization of special manual-training, trade, and professional schools. The conditions here discussed probably do not indicate a necessity for support by the state, of the distinctively so-called " professional schools " of the as distinctively so-called " learned professions." They will probably be always overcrowded and well supported ; unless, indeed, they should some time cease to be looked upon as specially desirable vocations by the most ambitious of young men. The education of the people of the State by the State will presumably include mainly the culture studies and the economically important branches of technical education.

John Scott Russell thus defines technical education :

" What I call technical education is that kind of training which will make the new generation of Englishmen excel the new generation of foreigners in this coming rivalry of race and nation. The English live in the midst of an energetic rivalry of competing nations. The aim of our national life should be to do the work of the world better, more ably, more honestly, more skillfully, and less wastefully than the skilled men of other countries. If we are less skilled or less honest than others, we are beaten in the race of life. To the national welfare and success, it is therefore necessary that the race of young men who are to do the work of England, . . . shall in their own special profession, occupation, trade, or calling know more thoroughly its fundamental principles, wield more adroitly its special weapons, be able to apply more skillfully its refined artifices, and to achieve more quickly, perfectly, and economically the aims of their life, whether it be commerce, manufactures, public works, agriculture, navigation, or architecture."

The same remarks are true as applied to the United States ; for the Atlantic Ocean has ceased to be, to any important extent, a wall of defense against foreign competition in the refined industries, those which bring wealth to the worker and diversification of industries to the nation. Our school and college curricula have hitherto been, and are still, in fact, vastly too exclusively literary to meet the needs of the people and of the country. We have made hardly a beginning in the building of that great system of industrial training, supplementing education, which must, if we are to survive in the industrial rivalry of nations, soon be made to constitute an important and extensive division of the state and of the national educational structure.*

It is this aspect of the case which makes the introduction and perfection of technical education in our own country, and its development as a

* " Technical Education," by the writer. Trans. A. S. M. E., 1893.

part of a state and national system, matters of supreme importance to the people and to the nation. Unless our people are at once more intelligent and better trained in their productive vocations than those of other nations, they must be content to settle to a lower level and there remain.

Technical education and technological schools thus constitute for us the most important of all current topics and subjects in connection with educational work and development in this country. The foundation of technical schools of all grades, from the kindergarten and purely manual-training school, to the special trade schools and the higher schools of engineering, agriculture, architecture, and art, is the essential and pressing duty of the hour. Their organization and their incorporation into the great educational system of state and nation constitutes the grandest problem of the time, for educator, patriotic citizen, and statesman alike; and the questions: To what extent and in what form should our educational system include technical schools? How should they be united with the schools of culture? How shall their distribution among the various vocations and professions be symmetrically effected? To what extent and in what manner should the state sustain them? And what are the deficiencies in number, curriculum, and method of the schools already established?—these questions are those of the hour. These constitute the great problems of the citizen, the educator, the legislator, and the statesman of our time. Such questions as these demand discussion and action, imperatively and continuously. They are more pressing and vital than those of tariff or currency, annexation of adjacent provinces, or choice of gold or silver, iron or copper, for our coinage. Economical errors of the latter sort may isolate us from the rest of the world, but errors in the moral and intellectual or the technical training of the people will make home life less satisfying.

THE MAGNITUDE OF THE DEMAND for technical instruction in the United States is greater than is usually supposed, and the real need—which vastly exceeds the demand—is far beyond the ordinary estimates of even the educator engaged in this special work. The writer has estimated that were the United States, as a whole, to provide as liberally for the technical education of the people as do some of the provinces of France, and of Germany, especially, there would be established:

Twenty technical universities, having in their schools of engineering and higher technics 50 instructors and 500 pupils, each.

Fifty trade schools and colleges, of 20 instructors and 300 students, each.

Two thousand technical high-schools, or manual-training schools, of 10 instructors and 200 pupils, each.

That is to say, there should be in the United States, to-day, 1,000 university professors and instructors, and 10,000 students under their tuition studying the highest branches of technical work; there should be 1,000 college professors and 15,000 pupils in trade schools, studying for superior positions in the arts; 20,000 teachers engaged in trade and manual-training schools instructing pupils, 400,000 in number, proposing to become skilled workmen. We have in this country 10,000,000 families, among which are at least 1,000,000 boys who should be in the latter class of schools. The cost of

such education would be, per annum, about 50 cents per inhabitant additional to the present school tax, and in the shops of these schools something less than \$100 per student, and under \$300 per annum per student, for total costs of higher education.

The actual number of schools of the highest class in this country, schools which are neither technical universities nor colleges, but, usually, either schools of restricted curricula, as engineering schools, or single and narrowly limited departments of colleges of general and mainly liberal learning, is about fifty. The number of real trade schools, prepared to give proper training, scientific and practical, in any one trade, is unknown to statisticians, but they are exceedingly rare, and a thoroughly representative trade school, like hundreds of those scattered all over Europe, is unknown. We have perhaps a dozen good manual-training schools in the larger cities; but we have no system of carefully organized, complete, and well-sustained schools of either class, supported by nation, by state, by city, or by any form of public or private permanent, systematic effort. "Such is the intimidating comparison, also, of the condition of our country, and the more enterprising and wisely governed countries of Europe. The latter have had two generations the start of us, and only the extraordinary natural advantages of our country, and the more extraordinary general intelligence and enterprise of its citizens, can possibly prevent this disadvantage under which we labor telling fatally against us in the course of time, when the inevitable competition of the world shall affect us." *

On the other hand, every State is doing more, and seeing more each year of the duty before it and its importance, and the State universities and the independent colleges and schools are feeling their way constantly, though slowly, toward the solution of this tremendous problem. Our people are peculiarly well fitted to benefit by the opportunities which may be thus offered, and to secure, in the interim, those kinds of training and those forms of knowledge which are the essential basis of the as yet incomplete technical system, and to compete with other nations at this disadvantage. The freedom of our institutions has engendered freedom of will and of intellectual action; and the free action of a thousand minds, untrammelled though untrained, preserves us against dangerous rivalry from the better schooled but intellectually enslaved masses of the world outside. What will be the final outcome of the changes which are now slowly evolving an educational system in this country, and at the same time giving freedom and stimulus to European peoples, no one can predict. It can only be hoped that we may, in good time, have our own, and an ample and efficient, "complete and perfect," system of education of our people for the life and the work of our people. At the moment, we have no system of suitable education of the nation; but we are making some progress toward the production of what is needed.

* Reports of the Director of Sibley College.

The character of our technical schools remains as yet as unsettled and various as their independent and far-separated points of origin permit. The State universities usually offer a few fairly well-defined courses in engineering and architecture and in the science and art of agriculture, and a few of the independent colleges stand beside them. The larger and older literary colleges usually do but little in this field, and do that only under pressure and rarely well. The independent schools have as many standards of work as they have foundations. Some demand a good high-school preparation; others only a few selected preparatory studies, and they, often, very elementary. Of the endowed schools, some, as the Massachusetts Institute of Technology, are able to offer numerous courses in science and in the constructive work of applied science; others, as the Rensselaer Polytechnic and the Stevens Institute of Technology, elect to offer a single but strong course. Some approximate the technical university in their magnitude, extent, and variety of work; the others, often denominating themselves engineering colleges, give a nondescript trade-school course. A few, like the Pratt Institute of Brooklyn, the Cooper Institute of New York, aid thousands of artisans; others give costly instruction to the wealthy few.

We need in every State a technical university, or a technical-school side to a university, in which the highest possible grade of professional school shall be maintained, and for all the professions based upon learning. Law and engineering, medicine and architecture, theology and agriculture—all have their scientific basis, and their highest provinces and grandest fields lie where only the highest scientific training and widest knowledge can make them satisfactorily productive of good. Their courses should be precisely adapted to the presentation of all modern science and the best of contemporary practice, to educated and well-prepared disciples, by the great leaders of each. That only can be rightly called a learned profession which demands of all its practitioners a thorough familiarity with the science as well as with the art of that vocation. The planning of the courses taught in professional schools should be capable of being very exactly defined and adjusted to the needs of the profession. The courses of the now more common mixed schools are less easily prescribed.

We need a trade school, or a technical college embracing trade schools, in every large city in the country. We should have at least one in each of the smaller States, and from two to four in each of the larger and more densely populated States. The East needs weaving schools and schools of industrial art to serve as a foundation for her manufacturing system and her decorative work; the West is in especial need of similar schools to stimulate the introduction of manufactures among her agricultural districts. The South is in want of technical and trade schools to give her material to introduce into her cotton mills and metallurgical works. All

parts of the United States need many such schools where at the moment one exists. Manual-training schools are required wherever boys and girls are growing up to lives in which industry and skill are their only ways to competence, or even to security from an old age of poverty and suffering. There should be not less than ten of these schools to every congressional district in the country, and they should be open to the poorest, offering instruction in all the trades to the boys, in all the domestic arts to the girls.

THE CURRICULA OF THE SCHOOLS furnish a subject for constant discussion, not only among educators, but among parents and pupils. In relation to those of the "culture schools," those of the scholastic character which have grown into shape from the monastic period in which they originated, and under the influences of that form of culture which they are intended mainly to perpetuate, there is little question. The purpose and method of the classical education are well defined and settled from primary school to university; but the later scientific and mixed schools, and the technical schools, have a less well-defined form, as they have a less exactly prescribed purpose. Were we permitted to organize the ideal school and system of education, the task would be comparatively easy, and we should lead the pupil of the primary through the secondary school into the college and the university, finally giving him his professional training after he had acquired as good an education as time and means may permit. But, even at this advanced period, we find, often, less than one-half the students in our law schools holding college diplomas and already well educated. The young man seeking to enter a profession must very often, if not usually, either secure his professional training before entering upon a college course, or not at all; and we cannot shut out the best youth of the country from the professions because, not having inherited wealth, they cannot first secure a liberal education. If this proposition be correct, we find a reason for the fact that the professional schools, as a rule, demand of their entering students only that preparation which is essential for the successful prosecution of the professional studies. It is, at the same time, well understood by all that the possession of a liberal education is in the highest degree desirable, and every young man of sense and ability seeks as much of this great good as his circumstances permit.

The great problem which confronts the educators of this country is thus to so organize their school-systems that the sons and daughters of well-to-do people may pass by a regularly graded course from primary to secondary school and on into college, and, if they choose, into the higher work of the university; while the children of parents less favored by fortune may similarly pass from secondary school into the professional or the trade school, and even, in the case of the poorest, from primary into trade school; the latter, in this case, becoming the secondary or high school,

beyond which these pupils cannot afford to go. In each school the ideal method and plan is marred by the practical conditions of life. In each school two, if not three, classes of pupils are to be cared for. The primary school, only, prepares all alike; the secondary school completes the education of the poorer, and gives the children of the wealthy only the first step in their preparation for the higher education which they are to be given later. Its work may even be that of a trade school as well. The college, similarly, may be required to educate the youth, in one case for a professional school, in another for the world, in another for the work of the university in the highest fields of research, in science, in literature, in art.

The professional school, of whatever kind, obviously can do its best work when it makes professional instruction its whole purpose and work. "This one thing I do," is the motto, in education as in business; both because it is by concentration that most is accomplished, and because it presupposes the best preparation that the student can give time and means to secure. That law school, that school of medicine or of engineering which gives its whole time to professional work, and employs specialists for the whole list of studies thus given, will be able, as a matter of course, to do the most and best work in the time allowed it. It will, other things equal, have the best prepared and most mature students, and be thus able to cover most ground with its special curriculum. This is one notable feature of progress during the generation in our representative scientific and professional schools. All are moving their requirements upward and eliminating the elementary and non-professional work, and offering a larger and larger proportion of the purely professional and characteristic branches. With the engineering schools, this progress is accelerated and compelled by the need of higher and higher mathematical preparation; and, with each step in this direction, the student gains in his whole range, the additional time demanded for the increased mathematical preparation being also certain to insure more attention to the languages and the literatures, as well as to the scientific studies of the preparatory schools, which, in turn, are by this pressure continually raised to a higher grade. The demand of the school of engineering for higher algebra brings in students familiar with French; the call for solid geometry insures the offering of chemistry or of physics; and the requirement of trigonometry brings in students who have studied, very likely, two modern languages.

But a large class of students desiring to enter the professional engineering or other schools cannot give time and money to a course of eight years duration, dating from the termination of their elementary studies at, say, eighteen, taking first a liberal education and then a professional training. These will seek the school which offers the more essential professional studies, and so much of general education as can be crowded with them

into four years. The majority of our schools at present supply this demand, and rarely approximate the ideal type above alluded to. This must probably long remain the fact with most technical schools.

Preparation for the technical school, or for those which are attaining the rank of professional schools, at least, is settled as to character and extent by the demands of those schools; and they, in turn, are governed and controlled by the conditions of their environment. They require as complete preparation as they can secure from the schools which feed them; the latter give as good a preparation as the circumstances and age of their pupils and their own facilities permit. In neither case is it a matter of choice, purely. Each is continually demanding more of the schools below, and forcing, as fast as practicable, schools and pupils alike to higher levels of scholarship. Every influence tends to compel the more and more careful and judicious selection of the work of the whole series of schools, more systematic work in instruction, specialization on the part of school and teacher, and of pupil, and higher efficiency in the work of both, as well.

The separation of the technical from the purely educational schools has been by many, especially by foreign educators, considered essential to the prosperity of both, and especially in the higher grades, where the curriculum of each is forced to receive much, and to reject more, of the continually and rapidly widening and deepening current of human knowledge. That their coördinate, and even mutually helpful, operation may be possible is now coming to be seen in the United States, as never before or elsewhere, in the workings of the State universities; but the existence of and the reputation attained by a number of our independent technical schools—higher, in fact, usually, perhaps, than has been reached by the average adjunct university school—indicates that independence is not necessarily dangerous to success; and the lesser distractions of the latter and the broadening influence of the former may perhaps be by many set off against each other as fairly compensating circumstances.*

* There exists among the members of the professions, even, a somewhat strong impression—one which, it must be confessed, has some justification in the experience of the past, throughout the world—that a technical school cannot be made to succeed, fully and satisfactorily, as a part of an organization including academic schools; but that, in the presence of these apparently conflicting interests, the school of engineering must suffer, if not absolutely fail. This conviction has been expressed very strongly by President Eliot of Harvard, and still more so by the German educator, Professor Reuleaux, the head of the great technical university at Berlin, and who is by many regarded as the leader in the profession in Europe. In his address entitled "*Cultur und Technik*," he says that, "notwithstanding their intended pursuit of a strictly scientific aim, the technical schools have not concluded their peace with the universities. Even with the best of good will, none of our efforts toward a real amalgamation of the two has ever been successful." He quotes Professor Koechly, who says: "And if not side by side, at least we can fight back to back," in the great contest with ignorance and barbarism. He considers this unfortunate difference as arising from inherent differences in aim, and goes on to say that a blending of the two movements has been tried in the United States, our universities being both classic and technic, but that "the experiences hitherto gathered have not shown, so far as observation permits a judgment, that the union can be permanently maintained, or that it has furthered the interests of education in the way that legislators had anticipated."

"It is a great pleasure to be able to testify that, although the influences tending to produce such dif-

In studying the history of the rise and progress of technical schools—not only in this country but in Europe, and not only in our generation but in the earlier generations of European history—we may note that, as General Walker once remarked, “the schools of technology illustrate in an eminent degree the law of human progress which I have stated. These schools have not come into existence in obedience to a demand for them. They were created through the foresight, the unselfish devotion, the strenuous endeavors of a few rich men, and of very many poor men, known as professors of mathematics, chemistry, physics, and geology.” They have now become, as he goes on to say, an essential part of the educational system, and he adds: “They are to-day doing a work in the intellectual development of our people which is not surpassed, if indeed it is equalled, by that of the classical colleges.” And, further: “In the schools of applied science and technology, as they are carried on to-day in the United States, involving the most thorough and most scholarly study of principles directed immediately upon the useful arts, and rising, in their higher grades, into original investigation and research, is to be found almost the perfection of education for young men.” And, again: “That all the essentials of intellect and character are one whit less fully or less happily achieved through such a course of study, let no man connected with such an institution for one moment concede.”

IN CONCLUSION, and in direct reference to the queries which form the basis of the discussion of the Educational Congress of 1893, at Chicago, the writer may be permitted to submit the following, not as criticisms of existing schools, but as indicating what seem to him the lines of improvement and advancement of our schools and of our systems of education for the immediate future:

(1) Progress is visible toward the organization of one “complete and perfect” system of education in every State, from primary school to State university, which shall be so organized as to offer every citizen, as Huxley puts it, “a ladder from the gutter to the university,” and entrance into any one of the existing and of the rising learned professions, into the trades, or into any vocation of work, of leisure, or of self-improvement, that he may be able and willing to choose, and with, perhaps, a national university over all.

ferences as are here referred to, do and must, as I think, necessarily, and probably should, exist at Cornell University, there is as yet no evidence that they are to be apprehended as likely to produce permanent effect for evil. It seems more than probable that—every officer of the university understanding clearly its aims, and, as must be evident from the fact of his acceptance of duties in connection with it, approving those aims—the presence of representatives of such a variety of phases of educational work must exercise a conservative and beneficial effect in the development of a university planned, as is Cornell, with the object of adding to its ‘leading’ departments every adjunct necessary to enable the student to acquire a thoroughly liberal as well as practical education. To the technical student, frequent contact with liberally educated men and familiarity with a variety of non-technical work must bring great advantages, aside from the other general liberalizing influences of his university life.”—*Report of the Director of Sibley College, 1886.*

(2) The technical schools, from kindergarten to the technical school of the university or the great independent professional school, are coming to have more definite curricula, to adapt themselves more perfectly, on the one hand, to the needs of the people; on the other, to the great educational system of which they are to form a part. The higher schools are developing into professional schools; the intermediate grades into trade and mixed schools; the lower into manual-training and primary schools, with the manual-training element descending, in the form of the kindergarten system, into the primary schools. Whether, ultimately, the representative school will have a purely technical or a mixed curriculum is, of course, as yet indeterminable; but the forces of economical change are working strongly in the direction of steady rise, with tendency toward concentration and specialization, from kindergarten to professional school. Yet, as President Walker has suggested: "Possibly some ultimate form for institutions of the higher learning may yet be developed which shall embody much of both the modern school of technology and of the old-fashioned college, with, perhaps, something taken from neither, but originating in the larger, fuller, riper life of a happier and richer future." For the present, the independent schools will probably continue to offer a curriculum containing extra-professional studies. The universities will probably more and more restrict their professional schools to professional work, leaving the student the privilege of either taking his educational course in advance, or as contemporary elective work in other departments.*

(3) The universities are establishing, continually, more and more definitely separated schools of culture and of the applied sciences and of the professions; each having its strictly defined place, purpose, and curriculum, its exactly prescribed conditions of admission to its courses, and employing a staff of specialists to give the instruction which it offers as

* It is a curious fact that while the whole tendency, in the United States and in other countries, is obviously toward the organization of a system of state-supported schools, with a state university at the head, and toward a constantly more and more completely hierarchic form, there has arisen in France, at the very fountain-head of this movement, a sentiment favoring the destruction of the whole system, the breaking up of the state organization and replacement by local and limited organizations. The system now in operation, as established in 1808, by the first Napoleon, constitutes the Minister of Public Instruction the head of the national organization. He provides for the inspection of the schools and colleges, the conferring of degrees, on recommendation by the proper authorities, and the appointment of professors and teachers, and thus controls the whole educational machinery of France. The country is divided into academic districts, each having its special faculty, with a rector at its head, who is assisted by a corps of inspectors; the scheme being in some respects like that of the University of the State of New York, but endowed with larger scope of operation and greater powers. In each district an academic council has charge of matters of discipline; a faculty of letters attends to the curriculum in its field, and another of science takes charge of that branch. Faculties of law, medicine, theology supervise the work of the professional schools in each of those departments. Of late, Jules Simon, Jules Ferry, Taine, and others have proposed the reconstruction of the system in such manner as to produce a considerable number of local systems, corresponding somewhat to our own separate State systems, each with its own local university and underlying secondary and primary schools; breaking up the University of France, as the whole is now called, into a collection of independent but very similar smaller provincial universities. One reason urged for this change is that the Academy of Paris secures too large a proportion of students; another is that greater independence is thought desirable in the provincial sections and in the large cities outside Paris.

its peculiar work. The college is confining itself more and more closely to its work of education of the graduate passing into business life or of the man going upward into the university. The schools are similarly taking defined places in the general system, and complying more fully with the demand of the college and the university for good preparation of their entering classes, and with the demand of the people for a fitting preparation of the youth passing out from them into the common vocations of life. The independent schools are choosing their work, concentrating their strength and energies, and better and better performing a more and more precisely defined part of the great work.

Organization, systematization, concentration, specialization, union of distinctly separated and different elements into an orderly and complete whole, are the striking characteristics of the changes now progressing in our whole educational system. The outcome will probably be the formation of complete State organizations of schools, constructed with reference to the needs of a people, from kindergarten and primary school to college and university and professional school, including manual-training and trade schools, properly distributed as above indicated to be desirable, and, coöperating with this organic whole, here and there a special school independently doing its chosen work and serving as a stimulus and example to the official school. Washington's great hope—the *Washington national university*—may, perhaps, ere long take form and assume as its province that of preparation of strong men, of refitting learned teachers and professors for the universities and colleges of the States, and, especially, of carrying on and promoting research in every field of human knowledge. We have had no real university since the days of the Ptolemies and the foundation of the Alexandrian school. The monastic and scholastic element gave us but a narrow and fragmentary education. The introduction of the sciences during the years since Newton and Gilbert, of the applied sciences since Lavoisier, of the arts since Vaucanson, and of instruction in the constructive professions, beside that offered the older "learned" professions—these have reconstituted the university; and now, as never before for two thousand years past, we have looming up before us the outlines of an all-enclosing educational structure which comprehends the learning and the principles of the whole range of the literatures, the arts, and the sciences of contemporary human development. Of this horizon and zenith-reaching arch, perfect and complete as it soon may be, culture and learning are the voussoirs, and technical education is the keystone which sustains the whole and its superincumbent burden, the higher life of a people.

Those hundred "prophetic voices concerning America," preserved by Charles Sumner in his remarkable little book under that title, unite in predicting marvelous growth and a wonderful future for the people of the United States—which means, at a not distant future time, at least the

continent of North America ; but this can only prove true prophecy when the people of the United States and of every State shall have performed their greatest work and their noblest duty by insuring to all their successors the lofty privilege of education, each for his own life, and of systematic training, each for his own chosen work in life. De Tocqueville says : "The Americans of the United States, whatever they do, will become one of the greatest nations of the earth."* We may confidently hope and believe that his prophecy will be ultimately fulfilled ; but it will come of highest statecraft, not of politics ; of real wisdom, not of policy ; and only when the "complete and perfect education" of a great people for the life and work of a great people shall have fitted it for its final destiny. It is the steady and rapid evolution of this great system of preparation for a grand destiny that we see now progressing throughout the country, and which will soon result in a combination of private, State, and national support of this most substantial of all possible foundations for nationality and life such as will make safe the accomplishment of that most remarkable of all these predictions :

"Westward the course of empire takes its way;
The first four acts already past,
A fifth shall close the drama with the day;
Time's nob'est offspring is the last." †

DISCUSSION.

PROFESSOR R. H. RICHARDS, of Boston : I would like to say a word in regard to my experience in three points that have been brought up by the speakers : (1) Who is the best judge, the engineer or the teacher? (2) Is the immediate or ultimate success to be sought? (3) Is it better to seek first for culture and then professional training, or to seek culture by and with professional training?

In regard to the question, Who is the best judge, the engineer or the teacher? we have had recently a very interesting point come up. A very prominent engineering paper in one of our large cities had articles upon the different professional schools, coming out in successive numbers, and among other subjects was taking up the mining schools of the United States. I am to be connected with one of the mining schools, and am particularly interested in these papers. The editor was an engineer ; he was a teacher. Therefore his opinions come directly within this question, Who is the best judge, the engineer or the teacher? He looked up statistics for his opinions, and quoted statistics, and from these he found that there was a lower percentage of mining engineers, of students who had been trained as mining engineers, than in any other profession. He argues that because there are a lower number of mining engineers, therefore the schools of mining engineering are not doing their work as well as the schools in the other engineering lines. This set me thinking a little, and I began to look at our own experience in the school with which I am connected. He also argues that our schools are too general ; our mining course too general. They do not differentiate sufficiently.

We happened three or four years ago to put in a set of differentiations in our mining course. We divided it into a course of steam engine and power, and a course in chemistry, and so on. We made a third course, in which students took a very much larger proportion of civil engineering, and we still gave them the title, upon graduation, of mining engineers. The first result of this differentiation was that one-third of our

* "De la Démocratie en Amérique," 1864, t. ii. chap. x. p. 399.

† Bishop Berkeley, "Works," vol. ii. p. 443.

students who had been given a thorough professional education, with the very minimum of chemistry—went into steel-works, the very works that needed the highest education in chemistry. The second year following I have one instance of a student who followed chemistry to the greatest degree that was given, and he immediately went into mining engineering without any call, or very little call, for chemistry. Now the question comes up, Are we correct in saying that we can differentiate? I think the answer comes from practice; and, so far as it appears, we cannot.

In our school we have a general course, a general mining engineer course, and that is the course which I advise the students at the present time to take unless they are sure of some definite opportunity that is coming to them.

The second point of which I would like to speak is the immediate professional success or the ultimate professional success. The functional method, the older collegiate method, points to no profession at all during the four years of college life. This leaves the matter entirely with the pupil to take his profession when the time comes. The earlier course in the technical schools pointed, to be sure, toward the professional course, but did not put the pupils into position where they were ready to enter those courses. I remember many instances in our own school. In one of the departments the professor was particularly good in mathematics, and we thought there was no need whatever of introducing the pupils to that profession, but simply to give them a thorough mathematical training in the mathematical sides of that profession without giving them any introductions. This teacher was not particularly enjoyed by the pupils during their course in the school. He was not looked up to during the first three or four years of their professional training. The pupils in leaving school met with a great many impediments in finding their positions in professions. They went right back and changed their minds, from which it appeared that they had had a good course, and the only objection that one could see was that during the course the students were not introduced to their profession. They might have been shown many things at the school.

Now the later technical schools have profited by this experience, and they now put in a certain amount of work and training in the school which enables them to launch successfully in the world in their profession. We, at the present time, in our engineering schools, believe that the three great branches, chemistry, physics, and mathematics, stand at the bottom of success in the engineering professions; that we must in addition to this give some culture training, and some training to start the pupil in life without necessitating his banging his head against the obstacles and obstructions that are in his way; and that is, as I understand it, the key of the modern technical schools to-day.

Third, culture training, then professional training. I do not wish to go into a discussion of this. I know a man who went through one of our leading universities, took the four years' collegiate course, and took it standing at the foot of his class all the way, and he was practically struggling, as the faculty said, with another man for the bottom of the class. After leaving college he went to his professional school, and then he began to work, and he began to show that he had a very fine mind and a very good intellect, and he has since taken a place equal to the first in his line. Now, what good did those four years at the foot of the class do him? He is to-day standing at the very front rank of his profession.

PRESIDENT HENRY T. EDDY, Terre Haute, Ind.: In relation to our scientific and mining schools, we recall at once that the greatest impulse this country ever received in that direction was due to the land grant of the United States which has set up so many scientific schools. The great land grant which was the outcome of the war, which was a patriotic impulse, and which had in the hope of the framers thereof an increase of patriotic feeling throughout the country, it seems to me lies at the bottom of it. Now the thought which came to us in the address of Dr. Weishold last evening, was that the classical study, the study of Greek and Roman literature and the classical course of our own colleges, was of such a nature and had such an effect upon the human spirit as in a certain sense to undermine something really valuable in our present civilization. We are on this continent, the dominant power, asserting ourselves. It is not necessary to assert ourselves over against surrounding nations, as the German or French nation finds it necessary to assert its nationality, at all. I think we leave that in the background, and do not feel it and assert it in the way we should. These technical schools are unconsciously a stronger assertion of our individuality than any old classical colleges which had their roots far back in the past while we were provinces of Great Britain. I merely touch upon this thought, believing that it is already in your minds, and that it relates to the discussion in connection with the two very interesting and valuable papers that have already been presented.

MRS. CHARLES HENROTIN, of Chicago : Mr. Chairman—I have been very much interested in the feeling in this country toward technical schools, having sons, and I am very much surprised to notice that the education given by technical schools is usually considered only adapted to perhaps what we may call the middle classes. I don't know any class in this country that seems to suffer so much from their lack of specialization as very rich classes. I notice that Professor Thurston spoke as if, first, you were to give the general culture to the rich and then the special culture. Now, in my experience in life I should reverse that entirely. I should be inclined to give to the very rich the special and then the general. I have watched the children of some very rich people, and I have found that when the children are young and show pronounced taste for specialization in study, parents often try to insist on the pure culture and education. I have in my mind the sons of several men who had made a mark for themselves in rail-roading, and their sons have shown the same tendency ; and their parents have discouraged it as soon as they reached the age of ten or twelve years, and have insisted, in spite of the manifest disposition of those boys for technical education, to throw them to the universities of strictly literary and classical training. Now, as I look about the world I see that the men who are leading great financial enterprises, and enterprises especially that have to do with specialization, as engineering, suffer largely from the lack that their view of life was not broad enough, that their early training was not sufficiently along the lines of specialization to enable them to seize with advantage the tremendous future of the country.

I am greatly interested in this subject, because I see this great tendency among people who can easily afford it to discourage this special course of education. I think manual and scientific training are the most interesting signs of the times.

PROFESSOR WATERMAN, of the University of Chicago : I have just a few words in regard to one of the points which were raised in the paper, and that is the relation of broad culture training to the curriculum of a higher technological school. It was my privilege to take the broadest culture course which was offered in the Institute of Technology in Boston ; to get all of the methods of scientific investigation and applications to natural sciences, to political and economical sciences, and to get at them without any of the professional work which goes in preparing the man directly for a single profession, during the four years which I spent in the Institute of Technology. I now feel that the training which was offered in that course prepared for almost any life work by putting the men who took the course closely in touch with what was going on about them, and giving them thoroughness in what they did.

It seems to me that what has been said regarding the classics putting a man in touch with what has been rather than what is, is very much to the point ; and that by giving emphasis to the present rather than the past a man is best prepared to live completely, and to be an effective citizen and member of society.

PROFESSOR ALLEN : The first point that I had specially in mind to speak about was the matter brought out in the first paper by President Walker in relation to the view of the engineer, the practical engineer, as compared with the teacher, and I desire to express my opinion in favor of the value of the teacher's opinion. Being a teacher myself, I should do that with some reluctance, except for the fact that perhaps more of my time has been spent as an engineer than as a teacher, and for that reason I am able through memory to gauge my opinion both as an engineer and as a teacher. I am quite sure that an educator can far better gauge the requirements for an engineer's education than can the engineer himself.

We as members of the faculty find that it is not altogether safe to allow the pupil or his parents to decide as to individual and separate studies, and what sequence of work shall be carried out. In the colleges the elective system is carried to such an extent as to allow any selection of isolated studies, while in technological schools we decide what subjects necessarily depend upon others, what studies can be carried on to advantage in connection with other studies. I know that students of our own who have afterward been in colleges where the elective system was in full force, have experienced difficulties of that kind. It seems to me the progress we have made in that way does have its significance.

PROFESSOR THURSTON : Taking up the points as they come in order, I would like to say, in reference to the example cited by Professor Richards, of the young man who became good afterward, that I think it is extremely possible, and is extremely likely, that in the case where the young man takes the college course and graduates regularly with his A.B., he may get and probably would get a large amount of culture and a less

amount of learning. I think I should have proposed to the young man to give up that course and go to the institute and obtain a grand, good course, in which he certainly would have a good professional training and just as much of culture as could be introduced with it. You must train young men as you find them. You must take the block as it is formed. If you attempt to cut an Adonis out of a Hercules, you would be disappointed, especially if you attempted it the other way round.

One of the extremely hard cases is how to treat a gentleman of wealth. He comes to me with his son and wants to put his boy in the engineering school. He says: "That boy has no interest except in dynamos and things of that sort; he has gone through the high-school, and I don't think it is worth while to send him to school any longer." If I can get hold of the boy I can generally settle that question pretty promptly. As a general rule, I tell the father to keep the boy in college just as long as possible, keep him there until he has had a good liberal education; keep him at that for two reasons—it will give him the kind of work that he needs to make his character a little more symmetrical, and the boy who sat at the foot of the class for four years needed most the training that he wasn't able to get. As to the question of preparation for rich or for poor or for the middle class, I should say the schools have nothing to do with that. The problem of our schools and system of education is to prepare a course of education of which our pupils may avail themselves. Give them that selection, election, and graduation of courses which would allow any man to attain the aim that he ultimately seeks. As between the rich man and his son, and the man in moderate circumstances and his son, I should presume that in either case the same preparatory work would apply. He wants a general acquaintance with literature and sciences in their development, and the arts so far as they have been developed, as time and means will permit. Now if a man is rich enough to give his boy eight years of continuous study, he may take one of two methods. He may send him to a good technical school, if the boy's taste leads that way, and then he may undertake to give him a liberal education beyond that. Or he may send the boy from the preparatory school into college. Give him a course in college, for there is a wide range in college now. Let him complete his course in the college, let him acquire that knowledge of history, of literature, of the arts, that the true university course ought to give; then send him to his professional school.

I am so situated as to be able to make many observations. We have, as some of you know, in the institution with which I am connected, a set of courses laid out in the university, each one of which embodies a large line of elective work. We also have courses laid out in engineering, and other courses which make a man a professional man so far as training may do so. The great mass of our students come directly from preparatory schools and enter the technological school; come there and go right on into business. Here and there a young man comes into the university, takes up a course in science and letters—so-called arts course—and continues that until he is ready to pass out of the university into a professional school. If he has come from the engineering school his taste and opportunities combine to make his two years of study largely of pure and applied science. When he graduates and enters the technological school he then will have had all your mathematics and applied mathematics and physics and chemistry, and even a large amount of applied science working in the laboratory, so he has practically completed two years of work in the technical school, and so he goes and gives two further years in the technical school, and finally graduates at the end of six years.

If this boy attempts the other system, and goes into the technical school, and later applies for entrance into the university, he usually finds that he is required to know ancient and modern languages, perhaps more than he is able to obtain, and he has to go back into the preparatory school first, and then to the technical school. The proportion of young men who are taking advanced work in these schools increases, and is in larger proportion made up of the young men who have had their general training before they have had their special training. If the young man cannot find time or means to take a good general course first, in which he shall be made acquainted with what in modern times is termed culture, and then takes his professional course, he then has no alternative. He must go into the professional school as soon as he can. It is not a discrimination between rich and poor. That is made by nature, and the school cannot control it.

The question is raised whether the educator or the professional man should determine the choice. I think the educator should have the majority vote or veto power over all propositions relating to this matter, but I think if he is wise he will keep himself in touch both with the man of the profession and the pupils of the classes from which that support is drawn.

A wise general listens with great interest and care and candidness to those who constitute his council of war. In the engineering business that council of war is composed

largely of those who are the leaders of the profession, and I think there is no difficulty in having the subjects cut and carved if the educator holds the control with due regard to all who have any interest, even to the student himself.

PROFESSOR WOODBURY: If I had with me the address that was made by President Walker before the convocation at Albany, I could give you just such an address as I would like to give. Of all the literature that we have had upon the subject of the sciences for truly educating the man, I have seen nothing like it, and if you have not seen it, I wish you would look it up and study it. We have lived to see this subject grow up in our day. I remember with great distinctness the position that was taken by classical men in the study of the sciences in the place of classics. That prejudice was strong, and I think in a great measure natural, for the men who opposed the study of the sciences had not themselves studied them. They were brought up in another line, educated in another line, and they really feared, it seemed, that it was going to overthrow their cherished notions, and that will rouse men to opposition in any day, if anything will. And this address of President Walker, showing what might be done and what ought to be done, and what might be expected in training the mind by the use of the sciences, was opportune. It is not many years since, it is true, but I have heard no ridicule thrown upon scientific studies and courses of scientific studies since.

The point I wish to make is this, that the professor gives to the men under him a part of himself. If he is a true man, he is educating the men under him in a way that will be felt not only for the three or four years that he is there, but he carries it with him as he goes forth from the school. It is that zeal, that earnestness for truth, earnestness for investigation, earnestness to cultivate a love of study that is of greater benefit to the young man than any particularly well-designed course. Not that I cast any reflection on well-balanced courses, but if a man stands before his class well prepared, and with the earnestness to call out the thoughts, the ideas, the energies of the men, he is invaluable.

F. O. MARVIN, State University, Lawrence, Kansas: As to the value of general training, I simply want to add my belief to what has been said heretofore, that general training should precede specialization. That comes from my own experience and from my own observation. Of course I am speaking from the standpoint of an instructor in a higher technological school. As to what weight the opinion of a practicing engineer should have, I have this to say, talking from the standpoint both of a teacher and an engineer, to a limited extent. I believe that the teacher should have the casting vote, but we should look into the profession outside, and we should look into our constituency to see what we can do for them; and what may be true in Massachusetts may not be true at the Mississippi River, for the time being, at any rate. You cannot establish a standard that will be true from the Atlantic to the Pacific coast. Out West we have to serve our people, and you have to serve your people, and yet we should all strive toward a common standard of admission for all preparatory schools.

As to the weight that should be given to those things which prepare for immediate success, I want to say just a word. I don't believe there is a school in this country that can turn out an engineer. Engineering, if I understand it, in its practice, is the application of the higher sciences to definite special problems that come up from day to day, and I believe that only judgment and experience will teach a young man or a practitioner how to solve those problems. I believe it is the province of the schools to build the foundations on which the practicing engineer can build this structure which we call engineering.

I would like to emphasize just one other point. After all, the best things that come in an engineering course for a young man are those things which he acquires imperceptibly rather than through his text-book—the influence of the atmosphere in which he lives, the personality of the men with whom he comes in contact, and particularly of the personality of his instructor. It is the influence of the man on men. I believe that is of the first value, and in those schools that contain that class of men you find that they gradually are turned out into the world, and become men among men, as well as specialists among specialists. They are good citizens.

MR. BOOS-JEGHER, Official Representative from Switzerland: Our system differs in a great many points from yours; that makes it more difficult still. I think there is a great difference between our country and your country, but we have a system of apprenticeship that you do not know of at all, and our children are generally trained a couple of years practically before they study theoretically. The schools we have are divided into middle and upper grades, and perhaps you know of the high technical school

at Zurich, which has about one thousand pupils and one hundred and twenty professors, special departments for engineers, architects, chemists; and we have a second grade, which is supposed to educate young men who have been practicing in some industrial work for several years. Then it takes them three years of theoretical training, and then so much manual training as you have is not perhaps wanted. The lower grades we have not at all. We have got only an apprenticeship-board. We have the general instruction, which has no such manual training as you have.

TRAINING FOR SCIENTIFIC PROFESSIONS.

BY PROFESSOR JOHN M. ORDWAY, TULANE UNIVERSITY, NEW ORLEANS.

How far do the technological schools, as they are at present organized, accomplish the training of men for the scientific professions, and how far and for what reasons do they fail to accomplish their primary purpose?

COULD we gather a mass of frank, unbiased testimony showing how far the graduates of our technological schools have really satisfied the requirements of the situations to which they have been called, it would be of great service in the discussion of the subject before us. But a just census of the good, the unfit, and the indifferent men is out of the question, and we must fall back on the indirect evidence afforded by the fact that those who are sent out into the world by these institutions readily find good places, and the demand exceeds the yearly supply. And it may be observed that those who have employed one well-trained student have not uncommonly found places for more. It is fair to infer, then, that the managers of industrial enterprises are finding out that mere so-called practical men are not always to be preferred to such as have studied the principles on which their work is based.

Time was when men laughed at theorists, and not without reason; for many a one has made egregious failures because he knew not his own limitations and the limitations which real matter imposes on abstract science. And though for this a fostered self-conceit was largely responsible, the schools were not wholly blameless. In the instruction of former years the abstract and the concrete were kept too far apart. Teachers were content if their pupils crammed so much that they could pass the set examinations, relying more on memory than reason. They did not see to it that the knowledge was thoroughly ingrained so that it could reappear in works as well as in words.

But nowadays the student is expected to materialize his ideas and thus rectify his crude conceptions, and get such a grasp of facts and deductions that they become really his own. Now, in all well-appointed schools, laboratory work comes in as the mediator between thoughts and things. Formulas are not to be accepted until they are squared with the actual realities. It is true that in times past exceptional men have become well educated in spite of defective instruction. But our institutions of learning exist not for the brightest only. They should make good men out of

average students, of students who need to be encouraged and strengthened, and yet should be firmly weaned before they leave their *alma mater*. For such are needed all the exercises which can help to break them of leaning on their teachers, leaning on their books, and leaning on their fellows, and to build up habits of wise self-reliance.

The tyro in arithmetic looks at a question in the book, and minds only the figures. He adds them, and finds that the result is far out of the way. Then he subtracts, and is still wrong. Then he multiplies, and perchance gets the required number. Now he can do the sum in recitation, but can give no other reason except that multiplying gives the answer in the book. Alas ! too often in the higher mathematics the student is satisfied if by various tentative combinations he at last obtains the figures or the algebraic expression that the author gives. It is but a temporary correction of such mechanical floundering to point out, or by Socratic questioning to draw out, the explanation. Put the young man in the laboratory or in the field, give him the proper instruments, and let him use his own eyes, his own hands, his own wits, and make and solve real questions. By so doing you will inspire the dry bones of science with the breath of life ; you will take the listless learner out of the land of dim shadows into the region of stirring realities. If you would make interest interesting, instead of asking the boy in so many words to find how much a dollars will earn in b years and c days, lay before him a real note of hand and let him calculate its present value. One who has actually done so much domestic engineering as is involved in buying and laying a carpet, will not try to solve a similar problem, as we have known a score of teachers to do, by reducing the floor area to square inches and dividing by the number of square inches in a yard of the fabric, regardless of the distinctly specified size of the pattern.

To make theoretical instruction effective it should be carried along side by side with practical applications. In other words, text-books and lectures need to be supplemented by laboratory work in all branches. Some who will not understand school methods have said that there can be no real application till the fledgling engineer has found a place and has before him the apparatus that is actually used on the large scale. It is true he has much to learn, but he should have learned in school how to teach himself. The superintendent and the master workman nowadays cannot spend time to instruct him. No busy man wants an assistant who is constantly asking what he must do next and how he must do it. Apprenticeship is obsolete, and instruction is tacitly relegated to the schools, for there it can be given most economically. It is by no means necessary that one should have the largest operations to learn from. The chemist cannot, indeed, safely go at once from working with centigrams in a platinum crucible to tons in a reverberatory furnace. But the metallurgical laboratory should bridge over the gap by affording him the experimental rever-

beratory wherein he may use kilograms, and vary his trials at will with little cost. But when a blast furnace is turning out a hundred tons of iron in a day, to supply pressing orders, it will not do to change at pleasure the charges and the blast. It is not strange that owners and managers of large works have a horror of what they call experiments, for experiments have too often been made at once with the large apparatus, without first testing, at little risk, in the working laboratory. But, in fact, without rightly conducted experiments there can be but little learned and but little progress made in the arts. Experiments should be encouraged, but not on the ruinous scale.

But it is hardly necessary at this late day to bring forward many illustrations and labored arguments to show the advantages of object teaching, and laboratory practice, and shop-work, and field exercises. For it seems to be very generally felt now that besides the long-established laboratories of analytical chemistry, those of physics, and biology, and mechanical engineering, and civil engineering, and metallurgy, and industrial chemistry, are essential for the professional schools. Certainly those that have in faith provided themselves with these most fully are having the largest attendance and are otherwise the most successful.

The development of laboratories and the evolution of the best possible courses of instruction require much money and thought and time. It is but thirty years since ways were first devised for class work in physics. Metallurgical laboratories are hardly twenty years old. The mechanical are of very recent origin, and industrial chemistry has not got far beyond the beginning. There has been rapid and highly commendable progress in some lines, but even our best-furnished institutions cannot claim that their equipment is full, or that their instruction approaches very closely to the ideal. By far the larger part of our schools are quite insufficiently endowed, and the newer methods of instruction have vastly increased their wants. They heroically do all they can with their means, and accomplish much, but are forced to send out their students into the world without having reached the highest standard.

Capitalists who are to draw leaders of industries from the technological schools should see to it that these schools are furnished with all needed facilities for instruction. They should lend a helping hand and a helping purse, and not stand aside and expect perfect men to be made with imperfect means.

Respecting schemes of study there is great diversity of opinions, so that it is impossible to make out one that will fully satisfy everybody. Those that are actually followed are the results of many compromises. What proportion should general studies bear to the special, professional branches? What subjects can be abridged or omitted with the just expectation that the student will of himself take them up in after life? How many studies can the average student carry on advantageously at one

time? How far should the higher mathematics be carried in the different courses? Should any studies be pursued with chief reference to mental discipline, or cannot real work in applied science be made to give as good a setting up as mere intellectual gymnastics? Shall French and German be taught with reference to anything more than reading scientific books and papers? Can anything be done to give scientific students a better command of the English language than they now show?

To enlarge on these topics would provoke more discussion than the present occasion will allow. Suffice it to say that the student should become a man as well as an engineer, and it is not right to let the youth confine himself to a narrow groove for the sake of saving time and intellectual labor. If he is to carry much sail he must lay in much ballast. He must make up his mind to study hard, to study much that is not at first attractive, and to study always, or else fall behind his more industrious fellows in the race of life.

The sciences are so intertwined that no one can be understandingly pursued by itself alone. The young man should lay broad foundations while he can, for all too soon will the constraining duties of life force him to specialize, to merge the full-souled man in the automatic machine. Yet, as the courses are now arranged in many of the technological institutions, the average student does not and cannot obtain a mastery of the many subjects which are crowded into the four years. Much time is taken up in making up the deficiencies of the preparatory schools. A partial remedy might be effected by cutting out some things of least importance. And here it may be said, at the risk of touching some tender spots, that it were well if more of the professors were men who had spent some years in professional life, so as to have gained a fair appreciation of what the world of action requires. Real business can best correct one's mental perspective and show him what properly belongs in the foreground.

The higher institutions would gain much by confining themselves more closely to their proper work, and throwing back some of the general studies into the lower schools. Of course the preparatory schools should be raised to the highest efficiency by adopting all the modern methods and aids of education, and these schools should be properly coördinated with those above them. The standard for graduation can be most surely raised by having greater and more rigid requirements for admission. Of course this involves some lengthening of the previous years of schooling, and a slight advance of the age for graduation, and such reforms can only be brought about slowly. But looking back twenty years, we can see that there has been already some improvement, and we may reasonably hope for more.

If any institution would gain a high reputation in the industrial world, its faculty must fight strenuously against the desire to make a show of numbers; they must look out for quality rather than quantity. A

rigid and relentless exclusion of unfit applicants for admission, a thorough sifting of the undergraduates every year, are for the good of the school, the students themselves, and the world. A pupil who proves to be lacking in mathematical ability can never become a civil engineer, and, as soon as he is found out, it is a merciful thing for all parties to turn him aside to something adapted to his powers. That institution is entitled to the most credit which makes the best showing of graduates in places of trust and power, rather than a long catalogue of undergraduates.

We have tried to view the subject from without as well as from within the school, and in summing up can say :

The graduates of our best technological schools have shown themselves to be fairly qualified for their work.

The number of well-furnished institutions is still very limited, and we must not consider every one who has a degree of B.S. as necessarily a fair representative of all who are really entitled to the degree.

There is room for improvement in all the schools. One of the indispensable means of increasing the efficiency of schools of technology is to provide well-equipped laboratories of all kinds.

The schools should also keep in touch with the industrial world by arranging frequent visits and excursions to manufactories, mines, engineering works, and specimens of architectural skill.

The courses of study might well be revised, but this work must necessarily be left to the faculties of the respective institutions.

The higher schools cannot do their best until the preparatory schools are much improved.

EDUCATIONAL VALUE OF EXACT MEASUREMENT.

BY PROFESSOR ALFRED M. MAYER, OF STEVENS INSTITUTE OF
TECHNOLOGY, HOBOKEN, N. J.

MODERN physical science may be defined and distinguished from the knowledge of the ancients, as knowledge founded on exact measurements.

It had its birth about the time Newton was born, toward the middle of the seventeenth century. At that period two notable inventions were made : one, the *vernier*, the invention of Pierre Vernier, of France, who described it in "*La construction, l'usage et les propriétés du Cadran Nouveau*," 1631 ; the other was the application of the *screw* to exact measures, first made in 1640 by William Gascoigne, who died at the early age of twenty-four, on the field of Marston Moor, while fighting for Charles I. Gascoigne placed in the eyepiece of the telescope a screw micrometer, and then attaching the telescope to a divided circle, he presented to science an instrument capable of making the exact measurements which subse-

quently furnished Newton the data on which to frame his theory of the lunar motions and to show that they were conformable to his law of gravitation. Also, by measures made with the micrometer eyepiece, Flamsteed gave Newton and Halley the data which enabled them to compute the orbit of the comet of 1680.

The micrometer screw was subsequently used by Ramsden in his machines for dividing the straight line and the circle. Ramsden's invention, improved by our distinguished countrymen Rutherford and Rowland, has in their hands done noble work in ruling diffraction plates with great precision, and in giving the most exact measures yet made of the wave-lengths of light.

The vernier I need not describe. It is familiar to all educated persons. Suffice it to say that its immediate adoption as a means of subdividing the smallest divisions of a scale, either linear or circular, introduced a degree of precision in measurement not thought of before the middle of the seventeenth century.

Precise science is not older than two hundred and fifty years, only five times the length of the fifty years which to one of the age of sixty is looked back upon as a short period, in which but little can be accomplished by individual effort.

The effects on the formation of modern science of the two notable inventions I have referred to are undeniable, and it will be noted by all students of physical science that in every addition to our means of exact measurement, whether of geometric magnitudes or of the units used in light, heat, or electricity, sudden advances are made in knowledge; for to *measure* the connected parts of phenomena is the first and indispensable step to the advance to the knowledge of the *law* which connects the associated facts of the phenomena.

Such advances are recalled by all of you. After the invention of the revolving mirror by our countryman, Joseph Saxton, in 1830, it was applied by Wheatstone in 1834 to the measurement of the velocity of electricity; and its subsequent use by Arago, Foucault, and Michelson to exact measurements of the velocity of light marks a notable progress in measures of precision. Rood, of New York, using the same invention, succeeded in measuring precisely a fraction of time as small as the $\frac{1}{25000000}$ of a second.

Similar advances in our knowledge of the radiant energy of the sun, moon, and stars, and of the distribution of heat in the solar spectrum, followed the invention of the holometer in 1881 by Professor Langley, the present secretary of the Smithsonian Institution. To enumerate all the advances due to the invention of new instruments for exact measurements would be to give a good part of the history of modern physics and astronomy.

If exact measurements, as I have attempted to show, permeate all the

laws and doctrines of modern physical science, I need hardly add that students of science must make themselves familiar with the instruments and methods used in exact measurements, to have an intelligent appreciation of modern science and to have confidence in the truth of its statements, which, without that knowledge, are to many "a stumbling-block and foolishness."

Now, it seems to me that the study and use of the instruments used in exact measurements, and of the methods used in combining these measures to arrive at the most exact measure possible, are, from an educational point of view, highly important. The student thus has his mind opened to the view of things and the workings of nature where the *minutia*, generally disregarded as unimportant, appears of the greatest importance in the correct interpretation of nature.

Working with the instruments used in exact measurements gives, in an eminent degree, control of the hand, and training of the eye to minute and careful vision; and after the measures are made, the plotting of them in a curve in which the correctness or incorrectness of the measures made is shown to the eye at a glance, cannot fail to further the appreciation of careful and exact work on which often depends success in the practice of a profession or of an art.

THE EDUCATIONAL VALUE OF APPLIED MATHEMATICS, INCLUDING ENGINEERING.

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THE committee on programme for the Department Congress of Technological Instruction has requested the writer, through Commissioner W. T. Harris, to prepare a brief paper on the above subject in order to open the debate upon it. The compliment is accepted in the hope that, while securing agreement in the main, there may yet be additional light and confirmation thrown upon the subject by those who will participate in the discussion.

Assuming at the outset that the important work of the lower and preparatory schools is well done, to fit the student for his technical course of training, there would appear to lie behind the course of instruction in the technical schools two fundamental starting points. The first of these is that which has for its object the familiarizing of the student with those principles of pure science and knowledge which the engineering student must have as the foundation of all his later work. If we receive that definition of engineering which represents it as aiming to bring to humanity, for the progress of civilization, the utilization of those laws and forces

which have been provided by a wise and loving Creator for the progress of the race onward and upward, then it is impossible to lay too much stress upon this solid groundwork of scientific principles and laws. These principles, in themselves, are valuable as means of education where they are derived either by deduction from accepted axioms, or from foundation principles intuitively apprehended, as well as by induction from the observation of phenomena.

The educational value of this class of instruction is even most considerable in the domains of mathematics and what is called natural science. In these we get that mental training which comes from deduction and induction in their most rigid and exacting forms. After a certain point, however, it becomes rarely possible to take the time to compel each student to convince himself of the existence of a particular law or principle, and the instruction takes the form of the predication of law and principle by authority, and the familiarity of the student with the law becomes a question of his exact memory of what he has read or heard. While it is of course helpful and convincing to know that a certain theorem is accepted as true because it has been proved to be so by some one whom the student respects, yet is it not possible for a man with a good memory to pass successfully through the requirements of this part of his course in a condition of mental Nirvana, where he is satisfied with the exalted plane of achievement in the text-book or lecture-room atmosphere, while the other faculties of his mind, which education must bring out and strengthen, lie comfortably and lazily undisturbed so far as the course of study is concerned?

The second starting point in technical instruction is that from which the paths lead to the application of these scientific principles and natural laws to the problems of civilization and industry as they come to the engineer. This is instruction in applied mathematics, applied physics, or applied chemistry, as distinguished from the study of these as pure sciences, and is an instruction which is deemed of paramount importance. It begins, perhaps, at the middle of the school life of the student, but it ends only with the end of his natural or active life. It forms that part of a man's education which is never completed, and possibly does not stop with the end of existence upon this planet. It is difference in ability to apply successfully his knowledge of principles in the conduct of practical affairs, which differentiates the successful practitioner of engineering from him who is professionally but a cumberer of the ground, for whom no one has any use.

This instruction in applied science or engineering will, of necessity, be given along two lines. Every formula of practical value must have its theoretical expression which is deduced *a priori*, modified by coefficients of experience and practice, which shall take account of variable conditions or factors which the exact theoretical formula cannot, from the nature of the case, embrace. The two lines of instruction in this field will there-

fore involve, first, descriptive and explanatory instruction, which shall discuss these conditions of service, shall record successful achievement, and shall present and explain empirical formulas.

The second line, based somewhat on the first, but having its own special peculiarities, must aim at a broad and far-reaching training which shall make a man competent not only to repeat the achievement of a pioneer, but competent to predict, on the basis of past performance, what will be the action and result of new combinations in advance of experience. It is a man with this latter capacity who is the engineer.

There is no question that this second division is the most important. The first division is most admirably provided for by the engineers' pocketbooks and handbooks of formulæ, but we are unwilling at this date to say that a knowledge of pure science and a shelf-full of handbooks will make an engineer. We have a safe and conservative plodder and subordinate, but we have not a man of resources, nor have we the best man that could be made.

Permit the digression to say that by the foregoing it is not intended to undervalue the pocketbooks. The engineering student should be taught to use them wisely and accurately, as a part of his school training in the drawing-room. But exactly as his knowledge of the use of the slide rule cannot be permitted to take the place of drill in the use of logarithms, so the handbook cannot be used exclusively, to the exclusion of individual responsibility and thought, without a tendency narrowing and belittling in its character so far as the man himself is concerned.

The thesis of this paper, then, is that the applied mathematics, including engineering, is as efficient a means of educating a man as any study of the curriculum; and the reason for this is that the study of engineering gives a scope and an occasion for the development of the reasoning powers, of the critical faculty, and of the power of intelligent and wise choice, and that the development of these powers will result in a stronger man, a more reliable and firm character, and a broader grasp of the significance of professional opportunity.

It has been conceded that a fundamental defect attaching to the study of languages, either classic or modern, is their tendency to overtrain the memory for verbal forms and syntactical peculiarities at the expense of those mental capacities of judgment, criticism, or selection which have most to do with the affairs of everyday life. It is this which lies at the bottom of satire upon the unworldly helplessness of merely literary professors and others, and which has again given sting to the valuelessness of a scholar's training as it used to be, as a fitting school for technical affairs and business. If our principle is right, it explains why, under a system of marks, in a purely classical course, the man who ranked first in a class graded upon ability to cope with the intricacies of grammar should rarely have been as successful in winning reputation as some less con-

spicuous wight further down the roll. The valedictorian had an excellent memory and extensive vocabulary. Down the class, however, were those who had more reluctance to yield themselves to the guidance of recorded rule, and yet had in compensation the faculty of perception, of wise deduction, and even of origination. In engineering, when properly taught, from the very fact that it is not an exact science, like the pure mathematics, there is an opportunity given to bring out this most important principle, that successful mastery over circumstances means success and reputation, which these faculties bring, if other things are equal.

To a pure mathematical problem there is either no solution, the solution is indeterminate, or there is a fixed number of solutions. In engineering this is not so. He is easily discouraged who says there is *no* solution to a problem in engineering. The whole history of this century repeats over and over again the solution of that which was formerly said to be impossible, even by high authority. In engineering, the problem cannot be indeterminate when its solution, as in a manufactured article or in an achievement, is presented in a concrete form.

It is a most important consideration of any which can be impressed upon a young man, that in engineering problems there are many practicable solutions to every one; and (here mark the essential kernel of the whole matter) that it is left for him to make the choice of the most suitable solution under the special circumstances in which that particular problem comes to him. It is this exercise of a trained, critical, or judicial faculty, called by whatever name—common sense, horse sense, shrewdness, acumen, or what not—which engineering, more than any of the other professions, medicine alone perhaps excepted, demands from its successful representatives.

It is to be noted further that the considerations which are to be guiding factors in the exercise of this judgment, or critical faculty, or common sense, are not to be found in the school text-books nor in the pocket-books usually, nor from an authority calling down the vista of even an honored past. The choice has to be guided from the conditions of the day and the hour. The achievement of to-morrow must be built upon the success of to-day, the discovery of the last new combination, and even the commercial environment of the district where the solution is to be realized. It therefore comes back upon the teacher of engineering so to shape his instruction in this field that the men under his instruction shall be able to make the most of themselves, he standing by to help all in his power.

How shall this be done?

First. Teachers of engineering should be engineers possessing this element of sense, judgment, and critical faculty, rather than scientists only, competent authorities in pure science, but nothing more.

Second. Teachers of engineering should be practitioners in touch with the competition of the day, familiar with achievement of colleagues and

rivals, and with their critical and judicial faculty cultivated and in active use. They should be able to exhibit the action of the trained mind before the student, and not merely to theorize about its action. They should not be compelled to follow too far behind the lead of those who are at the head of their specialty. This is the great difficulty connected with the promotion to responsible professorships of young men who are put into subordinate positions in the schools immediately upon graduation, without an opportunity for contact with the competitive conditions of professional practice.

Third. Teachers of engineering should have some capacity as administrators and business men. Here at once a difficulty is presented; a comparatively small number of our professors can be the executive head of their institution, although American technical education exhibits notable instances of success along these lines. On the other hand, business exigency demands that the head of a corporation or firm shall give his entire time to its business, which the professor of engineering is, of course, debarred from doing.

The most practical solution of this difficulty has been reached where it has been possible for the teacher of engineering to have his work supplemented by lectures, isolated or in course, by successful practitioners who have made a name for themselves in their specialty. This procedure is not without its difficulties in spite of its obvious advantages. The advantages are the contact with student and practitioner, which is stimulating to the former in the highest degree, and he feels sure that the point of view of the lecturer is that of the competitive conditions of the day. The disadvantage is the danger lest these very competitive conditions prevent the lecturer from giving due recognition to the excellence of rival achievements. There is the further danger of disagreement between the lecturer and the regular professor, while both may be right. The student is likely to suspect errancy on the part of him who disagrees with a specialist, and the taint of errancy in one subject may extend so as to seriously affect the efficiency of the regular instructor in all subjects, which is, of course, unfortunate. There is the further difficulty that the lecturer may pass over the heads of his auditors, and the difficulty of finding time in a crowded course for much of this sort of additional work.

It would take us too far afield to pursue this discussion in detail, but it is the opinion of the writer that the advantages outweigh the disadvantages, and that instruction by such lecturers is desirable when practicable.

Fourth. So far as the student himself is concerned, his fundamental training in science should begin back in the preparatory schools, so that the latter part of the curriculum in the professional school can be specially devoted to this advanced training of *the man*, and the strengthening of his faculties by devotion to the applications of law and principle, and the strengthening of the mental powers in this direction.

Fifth. There should be symmetrical culture of the body, both muscle and skill and perceptive capacity, no less than training of the mind. How capable soever the mind may be as a tool, the handle by which it is directed by the will must yet remain the body and its ability to carry out the directions which the intelligence gives.

Finally, if it be the object of education to *lead out* and develop the God-given capacities of a man, to give him a kit of sharpened tools and a trained capacity to use them to make him more the master of unfriendly environment, to make him more capable of lending a hand to help upward those about him less favored than he, to teach him the basis on which to decide between that which is wise and unwise, between right and wrong, then the contention of this paper is that there is no training in education superior to engineering, when properly carried out, to produce self-reliant, independent, creative thinkers—to produce God-like men.

DISCUSSION.

PROFESSOR ROBERT H. THURSTON, of Sibley College, Ithaca, N. Y.: The educational value of applied mathematics and of engineering has, I think, always been more or less recognized from the earliest times. The fact has been that applied mathematics have not, until these later days, been looked upon as of sufficient importance, educationally, to secure for them a very important place in the curricula of the schools. The only university giving instruction in all the literatures, arts, and sciences of its time was that of Alexandria, the home of Euclid; and Hero the Younger, Archimedes, and their kind were teachers of applied mathematics, even though they, like all Greeks and all learned men of every nationality of that time, took no great interest in their practical employment. But their value as a discipline was recognized and utilized.

During the succeeding centuries, up to recent times, the arts progressed and science made great strides, and, more important than all, science found application in the arts; but for a thousand years the schools remained under the influence and direction of the cloisters, and only literature had real interest for them. The natural sciences made slow progress; mathematics gained little until the times of Newton and Descartes; and applied science, of whatever department, remained unrecognized by the schoolmen. To-day for the first time, and in the United States mainly, we find this attempt made deliberately and earnestly—usually by the State governments of the West and of the Middle States; while the independent schools, having for their main purpose the promotion of professional training in the constructive arts—in engineering, as we have come to call them—are taking a more complete form as educational institutions than the older schools ever approached. It is these schools which have done most to illustrate the educational value of the applied sciences, and especially of applied mathematics. These studies, given as a matter of business and for a business purpose, have shown themselves to have extraordinary educational value in ways which make them helpful in every department of a “complete and perfect education.”

The peculiar discipline afforded by the mathematics, pure or applied, is that of the reasoning and logical faculties. The study of pure mathematics gives power of starting from precisely defined premises, with quantities of exactly measured value, and of proceeding step by step, with absolute accuracy and quantitatively precise measures, to a result which is as exact and certain as the premises upon which it is based. Precision of definition and measure, accuracy of process, and exactness of each operation become, under this drill, intuitive and habitual. No qualities of mind are of greater importance, either to the development of character or to the acquirement of those qualities which give life success and value.

Engineering and the applied mathematics do still more. Engineering consists in the application of all available scientific knowledge, of applied science in every field, to the arts of construction. The purpose and outcome of the education given by these profes-

sional schools is business ; but an inevitable result of this course of intellectual application is the training of the reasoning and constructive faculties, and the production of a certain combination which no other course of instruction ever yet gave or could give. Here the judgment comes in as an element of education, and is itself a product of education ; and the man inevitably acquires wisdom where he before too often attained only to encyclopedic knowledge, and that of the most unavailable and valueless kind. The qualities acquired by the gymnastic training of the older curriculum were only the cultivation and strengthening of the faculties, as the gymnast in the ring or in his boat builds up and symmetrizes his muscles. It does not follow that he is more useful to himself or to his fellows for the possession of a better disciplined mind or body. He is simply prepared to make himself a more useful member of society, and to get more out of life for himself and others. Engineering, in its applications of science to specific ends, to the solution of problems exactly defined in advance, fits the man to make direct and productive application of his faculties, to conquer the world for himself, and to help his neighbor and the race.

Engineering, more than any other, is a profession based upon applied mathematics. It affords the mind that combination of exercise and discipline, that power of doing, and that knowledge of the ways of doing, which best trains the man and best prepares him for life and work. I should say that applied mathematics, as a study, may be relied upon to give the mind apprehension of exact and clear thinking, and of absolute, chain-like logic, such as no other intellectual exercise can give ; that the study of the sciences generally gives the habit and the power of precise observation and accurate statement ; that the application of the sciences to the constructive arts, in the higher departments of engineering, trains the mind, and the character as well, and gives judgment, and the habit of using it with discretion and with fruitfulness of result.

I would, in view of these well-established facts, go even further than the writer of the paper under discussion, and would uphold the thesis that, in the most important branches of education, engineering and its preliminary studies give the man a better training in the most important elements of the perfect character, intellectually, than any other known element of the curriculum ; and I would assert that they give development in directions in which the old curriculum was comparatively useless and ineffective. The older schools gave knowledge ; these give wisdom. The older gave a leading-string ; these give the power and the confidence needed to go alone. Those gave every opportunity to develop the weaknesses of human vanity, to make a pedant, or an intellectual "dude" ; these prune out every such folly, and teach the man to stand upon a real foundation of knowledge and power, or, if unequal to his task, to fairly judge, to admire, and to respect those who can and will. Pedantry in engineering is even more nearly unknown than in medicine. It flourishes only among half-trained or unsymmetrically trained minds, and then only when the experiences of practical life do not come in to discipline the callow brain.

The applied mathematics, the professions, engineering even, do not give a complete and perfect education, nevertheless ; and I am only the more earnest in advocacy of the value of the "liberal education," after long observation of the effect of an education restricted to professional studies, whether in law, medicine, theology, or engineering. A truly "liberal" education is one which embodies in the curriculum the elements of all the literatures, all the sciences, and all the arts which make the life of the time. The older schools, especially those of a century and more ago, did not and could not give a liberal education in the true sense ; such, for example, as could the school at Alexandria in its time. Nor could the professional schools of any time, so far as they restricted themselves to professional work and the preparation for it, provide an education in any proper sense liberal. The classical education of the Latin schools is as far from a liberal education as is the modern education of the professional schools. The "complete and perfect education" of Milton involves and insists upon the whole basis of intellectual life : literature, the applied as well as the pure sciences, and the intellectual substance of the arts of the time. All these unite and constitute essential elements of the whole. Give the boy and the girl as broad and liberal an education as time and means permit ; send the youth into the higher schools and the colleges to obtain from the great masters in all the departments of real education such knowledge and discipline as they can provide ; *then* send the matured and trained mind into the professional school to secure familiarity with the arts of doing as well as the knowledge and judgment required for successful doing. Only then will the character and the faculties of the individual have become all that can be made of them in the morning of life. Thenceforward the soul must travel its own path, in its own way, and by its own light.

SHOP-WORK AND DRAWING AS MEANS OF DEVELOPING SLOW PUPILS.

BY PROFESSOR R. H. RICHARDS, OF BOSTON, MASS.

WE shall all agree that a teacher should have in his possession as many means or tools as he can, in order that he may meet the needs of as many varieties of mind as possible. The analytical or mathematical method stands at the head of the list, and always will do so. There are minds, however, which have difficulty in accepting the dictum of pure mathematics, while a graphical representation or solution quickly removes their doubts and they go forward with renewed confidence. We might allude to the graphical method as the perspective of mathematics. Simple illustration: A student is to compute from the number of cart-loads of potatoes the number of bushels to the load, and the cost per bushel and the total cost of the lot. If he is to do the same for a lot of carrots, the bright boy will see through it at a glance. The slow boy may get mixed up and multiply his potatoes by his carrots, and lose his way. If the problem is shown him in the form of a parallelopipedon, with the number of loads scaled off on one edge, the number of bushels to the load on a second, and the price per bushel on the third, he gets the perspective or comprehensive view of the whole, and sees the value of the areas as well as the solid, and the foolishness of multiplying potatoes by carrots.

The graphical method always helps to clear the mind when it is in doubt. The bright, quick minds see at once. The doubting Thomases have to try in order to see. Shall we condemn the doubters and tell them they are not worthy of an engineering education, or shall we help them? There are easily ten places waiting for this class to one for the bright class; and in some instances the plodding fellows will fill those ten places more satisfactorily than the bright, quick fellows who are hurrying to the lead, even while the latter are *en route*.

Now graphical methods run through everything in physics, chemistry, and mathematics, and the engineering applications thereof. We have graphical statics, showing the relations of stresses in structures, telling us how strong the various beams, posts, ties, and struts should be in bridges, roofs, and other structures; making a complete check upon mathematical computations, and a completely new and different side of attack for the mind which has trouble with the analytic method.

We have graphical dynamics, if I may use the phrase, giving the relations of time-space-force which go together to constitute power. We have graphical hydrostatics, showing pressures and columns. We have graphical hydrodynamics, showing columns pressures, deliveries, velocity of motor, velocity of wheel, velocity ratio for best economical results.

In plotting results we have, for instance, Thurston's triangle of the copper-zinc-tin alloys, combined with their tensile strength, showing at a glance where the highest and where the lowest result is to be found, with the percentage compositions thereof. In slag calculation we have the five-line problem, designed by myself, of solving at a glance the computation for mixing two compounds in such a proportion as to produce a desired compound.

When a young man reaches the point that he asks for paper and pencil in order to answer your question, then you may know he is going to give you some real information and is not going to talk generalities. Need I say anything more in favor of drawing? I think not.

How, then, are we to get this result? We must teach him drawing—free-hand drawing, mechanical drawing, projections, descriptive geometry—so that he may draw the rear side of a cube or any regular solid without going round to see it, so that his imagination carries him through the solution of intricate problems in points, lines, planes, surfaces, and solids. These studies will be found to greatly help his analytical studies, explaining and clearing them up at every point.

So far I have only spoken of drawing. Now I will speak of shop-work, and will begin by saying that just as drawing is a means of explaining and clearing the intricate parts of mathematics, of analytical and applied mechanics, and of the study and design of structure and of machinery, just so also is shop-work upon the use of materials. No engineering course can afford the time for a great deal of shop-work. The time required to make elaborate work is quite foreign to a school of engineering. But a course should be given of sufficient length that the student shall feel at home in the use of wood, cast-iron, wrought-iron, and steel; and he should reach the point where he would feel as great a shock to see a material misused—for instance, cast-iron used as a tie-rod—as he would if he saw a horse harnessed up with his face toward the cart.

I have now mentioned drawing and shop-work independently; it remains for me to speak of them in their relation to each other. Mechanical drawing and shop-work are each independent forms of language. Drawing is an expression of thought upon a flat surface. Shop-work is an expression of thought occupying space. The making of a drawing from an object is a good mental exercise, as is also the making of an object from a drawing. But when a student has made a drawing from an object, and, without further reference to the object, has made a reproduction of it from his own drawing, he has felt and understood that most useful of modern appliances—the working drawing.

Now, am I taking too radical a position if I—after lamenting, as we have all lamented, our inability to take from the brain of the departing octogenarian something which can be mechanically given to the rising youth, whereby he may start in life with a distinct advantage over what we had

when we began, starting on a higher plane, higher by the amount that he has received mechanically from the brain of the dying man—am I taking too radical a position if I say, Let us use to a certain safe extent rapid methods of acquiring experience? Let us not take off from or diminish one iota from our mathematic and analytical methods of teaching; but if we can enlarge our student's sphere to some extent by the use of graphical methods, may we not safely do so? Must he be required to plod through every single thing without a short cut anywhere? I think not, and I think there is no place where shortened methods can be more easily found, adapted, and used, than in graphics. The danger of too free a use of them must, however, be kept constantly present.

I believe a judicious use of shortened methods will enable us to increase somewhat the training and experience as well as the culture of our pupils.

THE EDUCATIONAL PROCESS OF TRAINING AN ENGINEER.

BY PROFESSOR G. LANZA, OF MASSACHUSETTS INSTITUTE OF TECHNOLOGY.

IN order that I may be able to do justice to the main portion of my subject in the time at my disposal, I shall begin by laying down a few fundamental propositions, without stopping to prove them.

(1) In order to impart to any individual the best mental training, and hence the best education, the course to be pursued should depend upon his natural aptitude.

(2) Scientific study, and the study of science as applied to the industrial work of the world, is fully capable of giving the very best mental training to those whose aptitude lies in that direction.

(3) The development of the technological schools of the country during the last twenty-five years has been phenomenal, whether we consider the number of the schools, the number of the pupils, or the character of the courses of instruction, and the facilities offered for scientific and industrial education.

(4) An engineering course should aim to fit the student to become an engineer in the best and most thorough manner; and it is mainly on the scientific and practical work of the course that reliance should be placed to impart mental power, and hence mental training.

(5) The training of the hand and eye should form an important factor in all education, and especially in a scientific and technical education.

(6) The recognition of the foregoing statement has led to the introduction of laboratory work in chemistry and in physics, of laboratory and field work in natural history, of manual training in the use of tools, and

finally of laboratory work on a practical scale in the various kinds of engineering.

(7) Those who carry on industrial establishments in this country find that it pays them best to have as assistants young men who understand scientific principles, and who are consequently able to take a certain amount of responsibility and who can grapple with an emergency; for in a live industrial business emergencies are constantly arising, and the heads of these establishments have less and less use for men who are merely drilled in performing one operation.

In England the above stated condition of things is not yet realized, but the facilities for an engineering education are increasing, and there is a growing sentiment in favor of it. Moreover, the influences at work are such as cannot fail to bring about, before very long, a condition of things similar to that which exists in America.

If we analyze carefully the work to be done in the different kinds of engineering, commonly known as civil engineering, mechanical engineering, mining and metallurgical engineering, electrical engineering, and chemical engineering, and perhaps some other industrial pursuits which are not usually called engineering, we shall find that, in many of them, and I might almost say in all, there are, first, certain processes to be carried out, and, second, attention must be given to devising and preparing the means of carrying out these processes efficiently and cheaply; to the best kinds of machinery to be used for all the steps in the process, including a consideration of their efficiency, durability, first cost, the expenses necessary for attendance, also for their maintenance and repair, etc.; to the construction and arrangement of the power plant, whether water or steam; the system of transmission; the design and construction of the buildings adapted for the work, including foundations, water supply, drainage, heating and ventilation, light, lighting, fire protection, and a large number of questions of a similar character, all of which are generally recognized as engineering questions.

In the infancy of manufactures the processes are liable to be the all-absorbing problems; but as any one of these manufacturing interests develops, the processes become more or less settled. When this state of things is reached, the manufacturer who would succeed is forced to pay attention to the engineering problems that arise in his business. Hence the mining, the metallurgical, the electrical, or the chemical engineer must be primarily an engineer, but he must also be sufficiently versed in the special mining, metallurgical, electrical, or chemical processes, to be able to adapt his engineering work to their needs.

When we come to the terms civil engineering and mechanical engineering, which have both been used in different senses at different times, it is impossible to draw a line of distinction, and to assert that any one set of engineering operations belongs exclusively to the civil or to the mechan-

ical engineering profession. Indeed, the term civil engineer has been used, at different times, to denote all grades from a thoroughly equipped engineer to a mere surveyor who knows no engineering at all. Hence we may properly consider what is the education which a young man needs to fit him for the profession of engineering, whatever be the special line of engineering which he is to enter. Naturally, we wish, as far as any education can accomplish it, to put him in the best condition to meet and grapple with the duties, the problems, and the responsibilities of his profession as they arise.

Now there are two things which are absolutely necessary for a successful engineer; first, a knowledge of scientific principles and of the experience of the past; and, second, his own experience. The latter cannot be imparted in a school, and each man must acquire it for himself subsequently.

The man who is not familiar with the scientific principles which concern the work he has in hand, is not a safe man to trust with responsibility; for scientific principles are merely the laws of nature as far as known, as shown by the experience of the past. Hence it is that the first and most important thing to be done for the student is to give him a thorough drill in the scientific principles which find their application in his profession, for these are the things that should be acquired in school, since it is only with great difficulty and very imperfectly that they can be mastered after the young man begins practice; and this view is borne out by those engineers who have been successful, and who have had to acquire their scientific principles, little by little, during the practice of their profession. Too much cannot be said by way of insisting that a thorough mastery of such scientific principles far outweighs in importance anything else that can be done for the student; and this is so true that it is a decided mistake to neglect this part of his training in order to impart to him greater skill in such processes as will probably engage his attention the first year after he goes to work.

The two fundamental sciences upon which the scientific principles of engineering are especially dependent are mathematics and physics.

The function of mathematics is to draw necessary conclusions from the assumed data. Mathematics has nothing to do with the correctness or incorrectness of the data. No natural law can be discovered by mathematics alone; the discovery or proof of natural law requires experiment and observation in all cases.

The engineer should have a thorough working knowledge of whatever portions of pure mathematics he needs to make the calculations that are liable to arise in his work, and also to draw the necessary conclusions which concern the engineering and scientific subjects with which he must deal in his profession; and this latter is an all-important matter.

We may say that arithmetic, algebra, geometry, trigonometry, analytical

geometry, descriptive geometry, and the differential and integral calculus are an absolute necessity for our prospective engineer; and differential equations is very desirable. The special work to be done in each of these subjects is a matter of judgment with the one who lays out the course.

The student should acquire the ability to use his mathematics as a tool, not only for making computations, but also for drawing necessary conclusions of the kinds that apply to his engineering work; and this last is the feature that is most frequently lacking in the mathematical instruction given to engineering students.

An important matter to be attended to throughout the engineering course is that the student should be taught to distinguish between the mathematics of his work and the assumptions made at the beginning or in the course of the work of the proposition he is dealing with. The student is too prone not to draw this distinction, and to consider things that are pure assumptions as being the deductions of the pure mathematics, and hence as conclusively proved. Such a course is fraught with danger and leads to all sorts of errors, often very serious. In order to avoid it, the student must be taught to think.

The other fundamental science which I have mentioned is physics. Practically, a course in physics is the suitable preparation for a proper understanding of the scientific principles of most of the engineering work with which the student will come in contact. Mechanics, light, sound, heat, and electricity are all matters that concern the profession of the engineer so intimately that he cannot afford to neglect a careful study of their first principles.

A certain amount of work in the physical laboratory is of great importance for the student, since it teaches him how to ask questions of nature and how to obtain correct answers; in other words, how to make careful and accurate experiments. It is true that the greater part of the experimental work of the engineer will have to be performed on a considerably larger scale than that of the physical laboratory; but, on the other hand, some of his most important and delicate work involves the doing of just such experimental work as he is taught to perform in a well-organized and well-equipped physical laboratory.

Next, as to chemistry. I cannot claim for it a similar position of fundamental importance in the engineering part of an engineering course that belongs to mathematics and physics. Nevertheless, a certain amount of chemical knowledge is of great importance to all engineers; but when this amount has been acquired, although a further knowledge would be useful, it is not one of the most important things. Chemistry, however, when given in the freshman year, fulfills another important function; viz.: it introduces the student at the very threshold of his course to a character of scientific work that obliges him to think, and to think in

a direction in which, as a rule, he has not been trained in the preparatory schools. Especially is this true of the laboratory work, since chemistry, unlike mathematics, is an experimental science; and we often find that it trains the thinking powers of the student even more than do algebra, geometry, and trigonometry.

Turning next to the subject of drawing, there are two objects to be accomplished: first, the execution; and, second, the power to express ideas by means of drawing, and power to read the ideas of others when expressed by the same means. Of course a certain amount of time will have to be employed at the outset to teach the use of instruments, and to enable the student to perform the actual work of drawing. As soon, however, as he begins to do his work with a fair degree of accuracy and neatness, the attempt should be made to teach him the language of drawing, so that he can readily translate ideas into drawing, and *vice versa*.

Now the mathematical theory of drawing is descriptive geometry; hence he should at once be taught descriptive geometry thoroughly, so that he may have a thorough grasp of this subject.

Free-hand drawing and lettering are both very important matters—*i.e.*, free-hand drawing to such an extent as will enable the student to sketch easily and readily any part of a machine or structure, and to make neat and plain letters and figures.

Next comes mechanism, which is, I suppose, the most elementary of the subjects that are commonly considered strictly professional work of a mechanical engineer. It deals with the combination of the means by which each of the machines of the world is enabled to accomplish its own special functions when the power has been furnished to it. It aims to make the student familiar with the methods by which these results are to be accomplished, and to teach him the principles governing them, so that he may undertake intelligently the devising of new arrangements, and avoid making impossible or undesirable combinations. The mathematics principally needed are algebra, geometry, trigonometry, and descriptive geometry; but it will often save work and enable one to reach results more easily to have a knowledge of analytic geometry and calculus. After he has had his systematic study of mechanism, it seems to me that he ought to become familiar with the usual machine tools in general use; and, besides this, that he should make a study of some machines involving examples of decidedly complicated mechanism by actually examining and handling them. Then, again, we have a special class of problems in mechanism which concern machines that furnish power, as the mechanism of the steam engine; but the one portion of the mechanism of the steam engine that requires special attention is the valve gear. Hence the student must have thorough instruction in valve gears and link motions, which shall drill him in the mathematical principles for working out valve gears in all their details; and also he should be taught the different

ways of designing and making those in use to-day, the ways of constructing them, and their adjustments.

The next course of which I shall speak is one which vitally concerns the engineer at every turn, and therefore one in which it is absolutely necessary that he should be very thoroughly drilled—I refer to theoretical and applied mechanics. This term has been used in different senses at different times and in different places, but, in the sense in which I shall use it, it includes a general and mathematical discussion of the action of forces upon bodies at rest or in motion, and also a full treatment of the strength and elasticity of the materials used in construction, both from a mathematical and from an experimental point of view. To speak more in detail, it includes such subjects as the following, viz. : Composition and resolution of forces, condition of equilibrium, determination of the centers of gravity of lines, of areas, and of solid bodies; the general laws of dynamics, as a treatment of uniform and varying motion; the pendulum; determination of moments of inertia and of centers of percussion; the laws of friction, determination of the work used up in friction, both by mathematical calculation and by actual experiment, etc.

Then come the determinations of the stresses in the different members of trusses of all sorts; and then a study of the mathematical discussion of the theories of the strength and elasticity of materials—*i.e.*, study of the distribution of the stresses acting in tension rods, struts, or compression pieces, beams or other pieces bearing a transverse load; also in all sorts of pieces that are subjected to shearing, including, of course, riveted joints, shafting, and beams, as well as in other pieces; the distribution of the stresses acting in a hook or in any tension or compression that has to bear an eccentric load; the modes of determining the deflections of beams, the angle of twist of shafts, or the amount of yielding of pieces generally under load; theories and modes of calculation of the stresses at different parts of continuous girders; determinations of the stability of, and of the stresses acting in, arches which bear a load, whether of stone or of iron; stability of domes, and a study of the theory of elasticity. Then, turning to the experimental side, the student should be made familiar with what experiments have been made, and with what results they have shown as to the strength and the stiffness of such pieces as are used in construction to bear a load. Moreover, the account of these experiments should be brought up to date, and special emphasis should be laid on the results of those experiments where the conditions of practice as to size, manner of loading, and treatment generally have been exactly, or at least approximately, copied. The student should be made to study carefully the actual results that have been obtained in these experiments; to collate and compare, and to draw from them such conclusions as are warranted; to see how far and in what ways they may modify the ordinary mathematical calculations and the ordinary ideas in regard to the action of such pieces

in bearing loads; in short, to put himself as nearly as possible in such a condition that he knows what is the extent of our knowledge of the facts, as shown by experiment, in regard to the behavior of the materials of construction—wood, iron, steel, stone, cement, concrete, etc.—when subjected to such loads as they have to bear in practice.

There are a good many cases where some people, who think they are calculating everything with all due care, neglect to determine correctly the forces acting on a piece, or the stresses produced by those forces. A few examples will serve to illustrate. Take the case of one of the columns of a building. When the greatest load per square foot covers the entire floor above, the resultant of the load on that floor acts along the center line of the column, and the stress per square inch due to this load is uniformly distributed over the section. When, on the other hand, the floor on one side is fully loaded and the floor on the other side is not loaded, then the total load is less than it was in the other case; but its resultant does not act along the center line of the column, but is eccentric, and the consequence is a tendency to bend the column.

When a column in a building is to be calculated, we should determine what is the greatest stress on one side due to having as great an eccentricity of load as is possible to be attained in the use of the building, and we should see that the dimensions of the column are such that this greatest stress should not exceed safe limits.

Another illustration is to be found in the matter of fly-wheels of steam engines. Every once in a while we hear that some fly-wheel has burst; the pieces have, in consequence of the breakage, been hurled in all directions, carrying death and destruction in their paths; people are killed, buildings demolished, and property destroyed. In several cases of wheels which I have examined, the stresses in the bolts uniting the separate portions of the rim and the stresses in the separate portions of the rim near the joints were greater than a proper regard for safety would allow, and greater than the designers of the wheels would have allowed had they realized their existence. The difficulty was that the designers had neglected to make allowance in their computations for the fact that the bolts were not placed in the line of direction of the resultant tension, but on one side of that line.

Another case where the disaster came about in consequence of having neglected to consider the effect of an eccentric load is to be found in the Bussey bridge accident which occurred a few years ago, where one of the hangers had a very eccentric pull upon it, while it was only strong enough to bear the load if it had been central. This disaster caused heavy destruction of property and large loss of life.

From the foregoing it is evident that the man who trusts to formulæ derived from some handbook to make his calculations for the strength of materials, while he does not know the principles upon which those formulæ

are based and is unable to deduce his own formulæ, is a dangerous man to be trusted with responsible work, and that just as there is no royal road to learning, so there is no means by which formulæ can be substituted for a knowledge of principles.

Turning now to a consideration of the constants to be used, the fact is that it is only within the last fifteen years that a great deal of activity has been displayed in testing the strength of pieces of practical size, and under conditions imitating closely those of practice, and that a flood of light has been thrown on the question as to what are and what are not reliable constants to use in practice. Of course, calculations based upon incorrect constants cannot give rise to safe structures and machines. What I have said is enough to show how very important it is that the study of strength of materials, both the mathematical and experimental portions, should be very thorough and in detail.

The next course to receive our attention is thermodynamics and steam engineering. It might be assumed by some that this was peculiarly the province of the so-called mechanical engineer; but that it is the province of every engineer of whatever name, becomes evident when we consider that steam is the principal source of power, and that without power all the works would have to shut down.

Now, let us consider how such a course should be laid out—assuming, of course, that the student is already familiar with valve gears and with the mechanism of the steam engine; also assuming that he has had a course of heat in his course in physics, and that, in this course, he has been taught thermometry, calorimetry, and the laws of the transference of heat.

He should then be taught the nature and construction of the steam-engine indicator, how it is to be used, how the indicator card is taken, and what it means, and he should acquire some familiarity with interpreting the characteristic and also some of the peculiar features of indicator cards; and then he should know the general characteristics—*i.e.*, outward characteristics—of the different types of steam engines.

Next he should receive a thorough drill in the principles of thermodynamics. What is thermodynamics, and what kind of a course should our prospective engineer have in the subject? Thermodynamics is simply the mechanical theory of heat, or, in other words, the science of heat with special reference to the production of motion. The subject was originally developed from the standpoint of the mathematical physicist, and books have been written from this point of view by such men as Clausius and others. Besides the fundamental principles of the science, they take up elaborate discussions of the nature of heat, and a large mass of applications and developments in the direction of pure science rather than in the direction of what we need in the study of the steam engine, or of other heat engines, as the gas engine, the hot-air engine, etc.

Now, in the course to be given we must include a thorough treatment of the fundamental principles of the subject, a study of the laws of thermodynamics, Carnot's function, and the whole set of fundamental equations and their interpretations. Then come the applications of these fundamental principles to the gases and vapors used in practice for producing power, especially steam, and also gas and air. Then a study of the experiments that have been made, and the results of the experiments on the properties of vapors and gases; experimental determination of the mechanical equivalent of heat; tables of the properties of saturated steam as pressure, temperature, density, specific heat, latent heat, entropy, etc.; also the same for other vapors, and a study of the laws governing the flow of fluids, both gases and vapors, through orifices and in pipes, including a consideration of the resistances. The steam injector comes next; and then the student is prepared for a study of the behavior of steam in the cylinder of a steam engine.

In this connection he should be taught the modern methods of analyzing and separating the various actions of the steam that passes through the engine, and of giving to each its proper consideration, both in the case of single and in that of multiple expansion engines; and (in the cases of the latter) the effects of different sizes and arrangements of receivers, the methods of proportioning the cylinders, etc.

Next he should learn how to make a proper engine test, both when it is for commercial purposes and also when it is to be made in a thoroughly complete and scientific manner for the purpose of obtaining definite knowledge as how to produce the best results by means of a steam engine.

The day when the taking of a few indicator cards from an engine, or the making of tests in which scientific principles and scientific accuracy are not attended to, and claiming that such tests can furnish information as to what are the real effects of different arrangements, is rapidly passing away, the advocates of such a course confounding themselves by reaching too many contradictory conclusions by means of their tests.

The student should have presented to him, in a carefully systematized form, an account of the experiments that have been made with such degree of accuracy and such regard for scientific principles as to render them worthy of study; and he should thus become familiar with what is the extent of our knowledge of the subject up to date. He should then have a good course in steam boilers, their characteristics, construction, operation, and accessories, including chimneys, economizers, etc. Parallel with this course of steam engineering in the classroom, the student should begin work in the laboratory by making steam-engine tests, alternating his duties at each successive test until he has been drilled in performing all the different parts of the work, and in making all the calculations necessary. For this purpose it is much better for the education of the student if his work can be done upon an engine large enough to work

with an economy comparable with that found in such engines as are used in large and well-designed modern plants. In these tests all the work should be performed with the greatest accuracy possible, and this accuracy should be such as to render the test thoroughly reliable. This can be accomplished, provided the instructor sees to every detail. Later on the student should make accurate and carefully conducted boiler tests on some large boilers.

The whole idea of such a course in steam as I have mapped out is to give the student a thorough drill in the fundamental principles of the subject, and then to teach him how these principles apply to the work of the engineer, the deductions and developments from the fundamental principles being made in the direction of engineering work instead of pure science; and also, by teaching him where we stand to-day in regard to reliable experimental results, to fit him to appreciate and take part in the best and most scientific engineering work of the present time, and of the future.

Another fundamental subject is hydraulics. Our prospective engineer should study the principles of hydraulics, or the laws governing the pressure of water, and the flow of water in pipes, in open channels, through orifices, or over weirs. He should also become familiar with the character and results of such experiments as have been made upon these subjects, and should know how to conduct such experimental work. In whatever special line of engineering he is subsequently engaged, he may have to establish a water supply or a system of sewerage, or the necessary works for a water-power plant, or river or harbor works, or at least a dock, a wharf, or a quay, if his works are on the water's edge. Unless his specialty is to be hydraulic work, he cannot in his four years' course study in detail all these things, but he should become familiar in any case with the principles stated above, and then, either by means of an option in the course, or after graduation, he can make a special study of a part or all of these subjects, if he has occasion to do so.

As to how far electricity ought to be accounted as a fundamental subject, and consequently required of all engineering students whatever their special lines, it is customary now to require some electricity in connection with the general physics, any further study of the subject being reserved for those who take the electrical engineering course.

Whether a considerably larger amount should be put in the list of fundamental studies will depend upon how far electrical appliances associate themselves with the everyday work of the engineer, whatever his special line. The probabilities are that in the future we shall have to insert a much larger amount of electricity in the work required of all engineering students, whatever their specialty.

The subjects thus far enumerated are fundamental, and our prospective engineer cannot afford to do without them, whatever be the special line of

engineering to which he is to devote himself. In laying out, therefore, any engineering course, of whatever name—whether civil, mechanical, mining, metallurgical, electrical, or chemical engineering—we should arrange first to give good courses in the fundamental subjects already enumerated; and thorough instruction in these should not be sacrificed to any other subjects, whether of an engineering or of a general character.

When this has been done, we must next consider what other subjects should be added, and they may be classified as follows: (1) Those of a professional nature, bearing on the work of an engineer in general, whatever his specialty. (2) Those of a professional nature bearing on the special line of engineering the course is intended to teach. (3) Those of a general character suited to impart general information. (4) Those which fulfill partly one of these functions, and partly another. In the first class I should place (*a*) machine design, (*b*) dynamics of machinery, (*c*) metallurgy of iron, (*d*) heating and ventilation, (*e*) stereotomy, (*f*) surveying, (*g*) shop-work.

How many and which of these subjects can be added will depend upon circumstances.

Under the term, dynamics of machinery, I include such subjects as governors, fly-wheels, dynamometers, the action of the reciprocating parts of the steam engine, etc. The mere mention of these subjects will make plain their importance, and the same is true of metallurgy of iron and heating and ventilation. Stereotomy is merely a species of advanced descriptive geometry, and can easily be acquired by one familiar with the latter.

Next as to surveying and topographical drawing. Of course, every engineer ought to know some, but the principles of surveying are easily learned by any one having a scientific training and some skill in handling measuring instruments; and nicety of execution can only be attained by long continued practice, which can be acquired after leaving school. Surveying has sometimes been assumed to be the chief function of the civil engineer, and frequently a man who was merely a surveyor would call himself a civil engineer; but the progress of the world is sweeping this away, and a mere surveyor is no longer considered to be an engineer any more than a machinist is an engineer. When we come to geodesy, it requires a thorough training, but it is a subject by itself and does not form a part of engineering.

Next, as to shop-work, remarks might be made very similar to those already made in regard to surveying. It is a matter in which every engineer ought to have some practice, but which should not be allowed to crowd out more important engineering work. Indeed, it would be well if this could be acquired at a manual-training school before the student enters the engineering school.

Next, as to the studies of the second class, we may make two subdivisions: First, those requisite for such specialties as can be developed

by a suitable addition of certain lines of work, and where these lines of work depend upon the previous training that has been given; and, second, those where a considerable knowledge of and hence a drill in chemistry are necessary. In the first subdivision I should place bridges, hydraulic engineering, railroad engineering, with special reference to permanent way; railroad engineering, with special reference to motive power and rolling stock; marine engineering, mill engineering, naval architecture, electrical engineering, and others as they may arise. In the second subdivision I should place mining, metallurgical, and chemical engineering, and others as they may arise. The essential difference between these two subdivisions is that in the latter a certain amount of chemistry becomes one of the essential fundamental studies, and must be so treated in planning the course, though we must bear in mind that these are engineering courses, and are intended to fit men to become engineers and not analytical chemists.

Let us assume, now, that we have fixed upon the fundamental subjects and the time that must be given to each; we are then prepared to map out the course to be pursued in what I have called the second class, or special line of studies, including whatever of the first class we deem best to insert in the list. I shall only mention a few general rules to be observed in making the selection:

(1) To drill the student in all the details of his profession, or to impart to him experience, is not possible in a school. (Experience can only be gained after he leaves school and enters upon his profession.)

(2) To attempt to perfect him in those things that he will have to do when he first goes to work, at the expense of his later success, is a very short-sighted policy.

(3) The work in these special lines should be so laid out as to fit him as thoroughly as possible to grapple with the classes of problems that he is likely to meet in the practice of his profession, in a thoroughly scientific manner, and thus to teach him the relations of his scientific study to the practical problems he will meet later in life.

As to the third class of subjects, or those intended for general information, it is desirable to insert as much as is possible without sacrificing the accomplishment of the main objects for which the course exists. Such subjects are mainly linguistic and literary studies. The first, however, if confined to the modern languages, are also to a certain extent professional, for without modern languages some of our most valuable engineering literature would be closed to the student.

Having thus marked out the character and the scope of the studies that should enter into an engineering course of one or another kind, there remains for me to speak of the graduating thesis, and the extent to which laboratory practice should enter into the course.

First, as to the graduating thesis, we ought, in determining what should

be its nature, to refuse to consider any possible functions that it may fulfill as a method of ascertaining the amount of progress the student has made, or his capability, and it should be planned solely with reference to the part it will play in imparting instruction of the kinds necessary to prepare the student to make a success in his professional life in the long run. Its special feature should be original investigation, and its chief object to teach the student how to carry on scientific research.

Next, as to laboratory work, I will first say that in giving the instruction I have outlined, it should not be merely classroom instruction that is given, but also laboratory work. Of course, the student will have, in addition, laboratory work in his own special line, as in the mining laboratory, electrical laboratory, industrial-chemistry laboratory, etc., besides work in the chemical and physical laboratories. But, leaving on one side any consideration of these special laboratories, and confining our attention to what are understood by the term engineering laboratories—*i.e.*, those bearing upon the work common to all kinds of engineering, such as laboratories for testing the strength of materials, steam-engineering laboratories, hydraulic laboratories, etc.—we may say that the three principal objects to be accomplished by them are :

(1) To give the students practice in such experimental work as an engineer is constantly liable to be called upon to perform in the practice of his profession, as tests of the strength of materials, evaporative tests of steam boilers, steam-engine tests, calorimetric tests, valve setting, etc., teaching him to carry on his work with accuracy, and to take all proper precautions to avoid error.

(2) To give the students opportunity to carry on original investigation in the engineering line, as investigations in strength of materials, in steam engineering, etc.

(3) Another important function of such laboratories, which is entirely consistent with the other two, is that of taking up and carrying on systematic investigations of engineering problems ; and this can be done in a laboratory, whereas it is only with very great difficulty that it can be done in a machine shop or in a manufacturing establishment. By publishing these results from time to time the laboratory will serve to add gradually to the common stock of knowledge.

Original researches should also be carried on by means of the graduating thesis, and, in this case also, some one of the teachers should take so large a part in the thesis, by way of aiding the student, and making suggestions and guiding him, and exercising the proper supervision over him, as to insure that the work shall be well done, and that the results may be of real value.

In closing, I will say that the introduction of laboratory work into our engineering courses and the work done by the laboratories have exerted a very great influence toward bringing closer together the engineering courses of the schools and the actual work of the engineer in practice.

DISCUSSION.

PROFESSOR C. M. WOODWARD, Dean of the Polytechnic Department of Washington University, St. Louis, Mo.: The scheme mapped out by Professor Lanza may seem very extensive, but I do not see that it can be cut down without serious loss. I am glad to indorse the view that the last year of the course should be spent on profound study of those principles of mathematics, physics, and mechanics which are true for all time and for every place, instead of attempting to become familiar with prices and mechanical methods of making estimates, the former of which change with both time and place, and an educated man may learn the latter readily enough when he goes to work.

Washington University has adopted two features in her course of training an engineer which insure an abundance of time for the work as laid down by Professor Lanza, and which provide for a fuller preparation.

First. The greater proportion of its engineering students are graduates of the Manual Training School. They have, therefore, fairly mastered the rudiments of instrumental drawing and brush-work, and may, at the start, be considered as proficient in mere drawing. Hence the drawing required in descriptive geometry, surveying, and engineering is done rapidly and accurately, with no waste of time.

Second. They are familiar with the use of tools and materials and the elementary processes of construction; consequently they do not have to stop to learn "shop-work." Washington University expects soon to require this manual training as a condition of admission to its Freshman class in the Polytechnic School.

Thirdly. The "thesis" or "professional report" is not required till the fifth or graduate year. The degree of bachelor of science in some branch of engineering is granted at the end of the fourth year, while the professional degree is deferred till the elaborate thesis has been presented during a post-graduate year, or years of professional practice. In my judgment the student is not fit to begin his thesis till the end of the fourth year's work. If he begin earlier, he is handicapped in the higher applications, and he spends time over his thesis that should be spent in the study of what is already well known and established.

Our students generally select the subjects of their theses on consultation with the heads of the departments, but they write and elaborate their theses by themselves in their own way. Of course they are faulty, and as a rule they ought not to be published, yet they may admirably serve the purpose intended—*i.e.*, they show the would-be engineer some of the difficulties that he will meet with, and how he may overcome them, while yet he is shielded from the pecuniary consequences of failure.

I am constrained to add a word of warning. Is there not danger of our neglecting the thorough study and grasp of general principles and general methods as illustrated in what is already well known and well established, in our feverish haste to push our students into original work and to publish the discovery of something new? Is that not getting to be the unfortunate ambition of colleges, technical schools, and universities? I think it would be possible to point out whole faculties who appear to be more anxious to build the fifth, sixth, and seventh stories of scholarly attainment than they are to properly finish the first four.

PROFESSOR G. LANZA, of Boston: In reference to the remarks of Professor Woodward, I will say that the thesis should be performed under the direction and supervision of the teacher; hence that residence should be required during its preparation. The object of the thesis is to teach the student how to make investigation, and, in order to accomplish this object properly, it must be under the immediate supervision of some one of the instructors who must see that it is properly carried on; and hence the thesis is really the joint production of the teacher and student; the teacher generally having had the greater part in the ideas. Then, when the thesis is deemed worthy of publication, it should be published with the name of the teacher attached, and no thesis should be allowed to be published without it.

EDUCATIONAL VALUE OF APPLIED MATHEMATICS AND ENGINEERING.

BY HENRY T. EDDY, C.E., PH.D., PRESIDENT OF ROSE POLYTECHNIC
INSTITUTE, TERRE HAUTE, INDIANA.

The general object of this session to-day is to attempt to estimate how the educational value of the various branches pursued in our technical colleges is affected by the fact that they, in such institutions, are essential yet strictly subordinate parts of general courses of professional study.

The fact that applied mathematics, for example, is an essential part of all our engineering courses, requires the student to master an amount and kind of mathematics which he otherwise would usually have no thought of taking; while the fact that this study is subordinate in its character imposes certain limitations otherwise not thought of.

It shall be our object to discuss for a few minutes the manner in which the stream of mathematical culture is affected, and, as it seems to me, rendered educationally more valuable, by what the engineer would call its canalization—by erecting dams, impounding reservoirs, and gates, in order to make its whole flow as useful as possible and let none of it run to waste at its own sweet will.

Perhaps the first and most evident consideration which forces itself upon our attention in regard to this study, is the precarious foothold mathematics had in this country until its study in connection with its applications lent vitality to it, and, in fact, made it an indispensable part of the outfit of the professional engineer. Since the establishment of the technical colleges—and I think we can unhesitatingly say because of their establishment—the study of mathematics has increased many-fold. Not only has the number of students pursuing it as a serious part of their course of study greatly increased, relatively as well as actually, but the extent to which it is pursued by the average student has been greatly enlarged. It is self-evident that this enlargement has necessarily multiplied its educational value, simply from the fact that it is more used.

The facts respecting the spread of the mathematical culture in this country within the quarter of a century of my own experience are so far beyond what anyone would imagine who has not investigated them as to be well-nigh incredible; and this has been almost exclusively due to the cultivation of the field of applied mathematics by the technical colleges. The designing of bridges and other engineering structures, of steam engines, of hoisting apparatus, of pumping machinery for water supply and sewerage; the designing of dynamos and motors, of blowers, rock crushers, stamps, and rolling-mills, together with the ever-increasing demands of public transportation in its protean requirements, have constantly called for and rewarded the increasing mathematical knowledge brought to the solution of its problems. The discussion of these problems in the engineering societies and college classrooms has constantly added to the stream of common mathematical knowledge. It is as if the application of mathematics to its legitimate and necessary uses had transformed it and enlarged it, much as the river Clyde was transformed and enlarged by canalizing it from Glasgow to the sea. It was thereby changed from a creek which at certain stages of the tide might with difficulty be used for large craft, to a broad and deep waterway, such that the largest ship-building industries of the world use it at their convenience. I dare say a Ruskin laments the transformation. I do not.

Trade and commerce the world over, and so humanity in general, have been benefited by the improvement of this stream; and so it is with the improved mathematical culture in our technical schools. Its proved utility and importance have reacted upon the study

itself so as to enhance the esteem in which it is held and thereby greatly increase the care and attention bestowed upon it by the faculties of those schools—all of which has continually increased its educational value.

One of the results of the careful consideration thus given to the mathematical part of our technical courses, is that its relative demands for time are duly weighed. Its definite relationship to other work demands that the time allotted to it shall be very sharply defined and conscientiously accounted for, because the student must, within the allotted time, cover a predetermined amount of a given branch of the subject.

A due sense of responsibility for time spent is perhaps one of the most difficult things to enforce in higher mathematical study, yet one of whose educational value there can be no question. Now, as I am pointing out, the *control* exercised over the study of applied mathematics in our technical courses is perhaps quite as effective as that exercised over any other study.

Having now called your attention to the increased vogue of mathematics in this country, as having been largely due to the fact that it meets a real need now brought to the consciousness of the professional engineer, and having noticed the improved quality of the instruction following upon fixing responsibility and focusing attention upon a matter to be of so great practical importance, we may profitably discuss for a moment the distinctive scope and character of applied mathematics as affected by its subject matter. It seems to me that the distinction to be drawn between this study and that of pure mathematics, is like that existing between the literary culture of the poet or imaginative writer, and that of the logician or writer upon scientific subjects. The one strives to develop his sense of the artistic and harmonious, of rhythm and cadence, of proportion and form, of sound as well as sense; while the other must first of all have regard to the facts of the external world, and to truth as it exists in nature apart from suggested ideal relationships.

I think this evident distinction in the nature of the work done in the higher parts of undergraduate or professional work in pure and applied mathematics, carries with it on the part of the student an attitude of sustained attention and interest toward applied mathematics which is very largely wanting in the average student of pure mathematics.

I am tempted to the utterance of very strong statements as to the educational value of serious, attentive study of this kind, which has behind it the powerful stimulus arising from the student's consciousness that it is the pathway to a successful professional career. Attention and sustained interest form the keystone of the educational arch; without them, educational values cannot be said to exist.

Just consider the case a moment. Here is this study of applied mathematics in its various ramifications built upon a solid foundation of descriptive geometry, calculus, and analytical mechanics. Its difficulties (as all admit) are more serious than those of any or all other studies in the student's technical course. He cannot expect to gain the advantages of the course until he shall have mastered the grammar and vocabulary of this new language—until, in fact, he is able to think and express himself in the mathematical forms which are the accepted medium of technical intercourse.

What element of educational value is here lacking that can be attributed to mathematical study in general? In the study of applied mathematics the impelling motive on the part of the average technical student is not, it must be confessed, his interest in the subject itself. He regards it as a means to an end; but he must, and he does, patiently exert his powers for a long period to master this means to reach the end sought. Has not that a great educational value of itself?

All will accord great value to effort like this, yet its effect upon the mind of the student is not so great, I am convinced, as if he had an overmastering interest in the subject itself. Its effect upon the formation of character may, however, be quite as great and

quite as salutary as the more absorbed study of mathematics for its own sake. That this attitude of willing study for valuable ends prevails largely in the study of applied mathematics will, I think, be generally conceded.

It may further be said that in the course of such study many a student finds his very highest interest and intellectual ambition aroused as to the subject matter of the mathematics under consideration. Such students, as it seems to me, reap the greatest advantage to be gained from this study.

I think it but just to assert that no higher educational advantage can be gained from mathematical study in any of its fields than is gained by these students of applied mathematics.

This last proposition, however, is one from which some might be inclined to withhold their assent. They would be inclined to think, perhaps, that some of the educational virtue of mathematical study is sacrificed when its subject matter is largely restricted to the range of subjects lying at the basis of the constructive arts. On the contrary, however, I am convinced that the gain in definiteness and clearness of conception as to the precise purport of the discussions brought to the attention of the student, more than compensate him for any loss he may possibly experience in their lack of breadth or generality.

The very fact that the mathematics is applied, within clearly understood limitations, to problems many of which are capable of experimental verification, in no way detracts from its educational value or vitiates it as a discipline.

Putting aside all consideration of accidental circumstances which render applied mathematics of such great disciplinary and educational value in our technical colleges, I think it can be made clear that it is in itself as valuable educationally as pure mathematics by a brief analysis of the educational value of mathematics as compared to that of language, which is perhaps the only other study that in range and importance can be properly compared with it.

As has been well remarked by Mr. Todhunter, the celebrated Cambridge mathematician, "it is the prerogative of mathematics especially, to supply from the earliest period exercise for the reason as well as for the memory." The manner in which this exercise for the reason is supplied by mathematical study deserves our brief consideration.

A mathematical symbol of any kind, be it a numeral, a letter, a line, a sign of an operation or an equation, is of such a clearly defined nature that the ideas intended to be expressed by it may be fully grasped by the mind. Usually each symbol stands for but a single property or relation of simple character. This is in striking contrast with language, where the elements used are words. Those in most ordinary use have such a multitude of modifications of sense, and such a bewildering *entourage* of subtle suggestions and relationships, that before they can be used for any exact reasoning, the sense in which they are to be used must be carefully defined. Is it strange, then, that the immature mind of the student finds that language, with its infinitude of suggestions and hazy indeterminateness, is but a quicksand when he attempts to use it as a basis for his first attempts at reasoning? He needs something simpler and more precise in its nature, and something whose laws are capable of being more explicitly stated. He finds this in mathematics.

To quote again from Todhunter: "There is no study which can call forth the faculty of original thought and combination of known truths, like the problems and exercises of the mathematics." Now is it not this ability to form ideas and distinguish relations with precision which is the supreme intellectual value of education?

It seems to me that in the earlier part of education this can be accomplished by no study so surely and rapidly as by mathematics. It alone is sufficiently simple in its subject matter and relations. Later, when the mind is able to carry the more complex relationships, and deal with the probable conclusions of practical life, language

may be the vehicle of equally valuable educational work; but the crudity of all youthful literary efforts gives ample evidence that the young mind is unable to firmly grasp the complicated relations involved in the definitions of words. Mathematics rightly taught is more suited to this stage of mental development.

To return to the educational position of applied mathematics. There is no question but that its complexity and range is sufficiently great to tax the best efforts of the student at the time he meets it, and there is no question, also, but that by reason of the fact of its application to design it powerfully stimulates that inventive mind-building process which is one of the highest kinds of mental culture to be attained at the average college age.

We are led, then, to reassert emphatically, not only that mathematics, in our technical and engineering courses, has lost none of its educational value from the fact of its study along the lines of its applications, but that, on the contrary, this value has been enhanced from this very cause, as well as from the several other practical circumstances before enumerated.

DISCUSSION.

PROFESSOR G. LANZA, of Boston: There are a few thoughts that present themselves to my mind to which, I believe, Professor Eddy has not referred in his paper. In any engineering course, one of the principal objects to be accomplished is to teach the student to think for himself; and a constant struggle is required on the part of the teacher throughout the four years of the course. The earlier the attempt to make the student think is begun, the better. Whereas the study of natural and experimental sciences plays an all-important part in teaching the student to think, the study of mathematics, if suitably conducted, would be one of the most efficient agencies to accomplish this result.

There are two functions to be fulfilled by the instruction in pure mathematics which is given to engineering students, viz.:

- (1) To enable them to perform the calculations necessary in their engineering work.
- (2) To enable them to draw the necessary conclusions from the assumed data.

Both these functions are all-important, and neither should be neglected, but it is the latter that involves the development of the power of thinking in the student.

There is one method, often pursued, where the whole aim is to make the student as good a calculating machine as is possible in the time at command, and where but little attention is paid to the latter function; in that case the study of mathematics does not develop the thinking powers of the student, and its educational value is not at all what it should be.

Another method, often pursued, is to exercise the student's ingenuity in performing a variety of (sometimes puzzling) problems, which are of purely abstract interest, and are not so planned as to bear upon engineering work. This course tends probably to make the student do more thinking, but does not direct his thinking in the channel most suitable for his engineering work.

I do not think that enough has yet been done by way of adapting the courses of pure mathematics taught in engineering schools to the objects which they ought to accomplish. Then, in the subsequent teaching of the engineering subjects, care should be taken to make the student distinguish between the mathematics of the work and the assumptions made at the beginning or in the course of the work of the proposition in hand. A failure to draw this distinction renders the student liable to consider as demonstrated, things which are only proved to hold provided certain assumptions are true, whether they are true or not being left for experiment to determine; and hence he is liable to draw erroneous conclusions.

What I have said is a plea for so arranging the courses in mathematics given in our engineering schools as to develop the power of thinking, thus causing them to fulfill their legitimate purposes, and therefore to endow these courses with their full educational value.

PROFESSOR DE VOLSON WOOD, Stevens Institute of Technology, Hoboken, N. J.: I once heard General Walker deliver an address in which he showed the advantages of

scientific studies over the classics for the development of the true man. I do not anticipate that any particular study will make an untruthful man true. Over and above the use of books or of science is the impression made by the instructor upon the student. The manner of the instructor, the impressions given out, his zeal in his subject, the ability to excite an interest in problems for study, will be remembered by the student long after books are forgotten. These impressions may be useful in forming his character after the instructor has passed away.

Many of us remember the growth of scientific and technical subjects almost from the first. Early in the history of the subject, one of the first great movements was the establishment of scientific courses in colleges, which consisted chiefly of mathematical and scientific studies already in the old classical courses, and made a three years' course. Now the literature is so extensive, and text-books on science so numerous, there is a temptation and tendency to "cram." This process is to be deprecated. Each professor desires that the student shall learn so much; he too often assigns vastly more than it is possible for him to digest or even absorb. A less number of pages, or even of topics, with more thoroughness in attainments, is desirable.

DEPARTMENT CONGRESS OF INDUSTRIAL AND MANUAL INSTRUCTION.

SECRETARY'S REPORT.

FIRST SESSION—WEDNESDAY, JULY 26, 1893.

THE Department Congress of Industrial and Manual Instruction met in Hall No. 6, Art Palace, Chicago. The first session was called to order by the Chairman, Professor J. D. Runkle, of the Institute of Technology, Boston, Mass., who made the opening address.

Professor C. M. Woodward, of Washington University, St. Louis, read a paper on "The New Demands made by the World's Industries upon the Elementary Schools."

The next subject considered was embodied in the "Thesis: A shorter course in the arts, and then a specialization with reference to some definite industrial pursuit, as in the French schools."

M. Eugène Martin, Director of the Primary and Higher Elementary Schools of Paris, gave an interesting account of the French system of industrial and manual training schools as it now exists. This subject was discussed by Professor Deatrick, of the Keystone Normal School, Penn.; Mr. Grant, of Rhode Island; Mr. George B. Kilbourn, of Springfield, Mass.; and Professor C. M. Woodward, of St. Louis.

The only part of the proceedings pertaining to industrial pursuits and manual training in the French system secured for publication is that contained in the discussion by Professor Woodward.

SECOND SESSION—THURSDAY, JULY 27, 1893.

The second session of the Department Congress of Industrial and Manual Instruction was called to order by the Chairman at 9.30 A.M., Thursday.

Professor Gustaf Larsson, Principal of the Sloyd Training School, Boston, Mass., read a paper on "The Sloyd or Swedish System compared with the Russian System of Manual Training."

Professor Larsson exhibited samples of sloyd work in illustration of his subject.

The official delegate from Russia, E. Kovalevsky, read a paper on "Manual Training in Russia."

Dr. H. H. Belfield, Director of the Chicago Manual Training School, discussed the merits of the Swedish system.

Professor C. M. Woodward, of St. Louis, followed, comparing the sloyd system with the Russian, as used in manual-training schools.

Dr. James MacAlister, of Drexel Institute, gave a brief account of the introduction of manual-training work in Philadelphia. The small attendance in the high-schools first induced its trial. The attendance soon increased in the high-schools from five hundred to fourteen hundred. It did not seem to work so well in the other schools.

The discussion of this subject was continued, and participated in by Dr. Paul Hoffman,

Assistant Superintendent of Public Schools, New York City ; Professor Woodward, of St. Louis ; Professor Richards, of Pratt Institute, Brooklyn, N. Y. ; Professor Bennett, of the College for Training of Teachers, New York.

THIRD SESSION—FRIDAY, JULY 28, 1893.

President Runkle, of Boston, in the chair.

A paper was read by W. B. Powell, Superintendent of Public Schools, Washington, D. C., on "Should Boys and Girls have the same Industrial and Manual Training Instruction in all the Grades?"

This subject was discussed by Edward Boos-Jegher, of Switzerland ; Dr. Paul Hoffman and Professor Charles A. Bennett, of New York, and others.

After farewell remarks by President Runkle, the congress adjourned.

LIST OF PERSONS ACCEPTING THE OFFICE OF HONORARY VICE-PRESIDENT OF THE DEPARTMENT CONGRESS OF INDUSTRIAL AND MANUAL INSTRUCTION.

AUSTRALASIA.

Dr. J. H. Maiden, Curator of Technical Museum, Sydney, New South Wales.

AUSTRIA.

Herr R. Petzel, Principal Manual Training School, Vienna.

BELGIUM.

M. Adrien Keelhoff, Professor, Industrial School, Anvers.

M. Eugène Rombaut, Inspector-General of Industrial and Professional Schools in Belgium, Brussels.

M. C. Van Sweevelt, Professor in Manual Training, Saint-Gilles, Brussels.

M. H. Van Kalken, Brussels.

M. Eugène Monseur, Professor, University of Brussels, Brussels.

CHILI.

Señor José Maria Muñoz, Santiago.

Señora Enriqueta Courbis de Valencia, Santiago.

FRANCE.

M. Hunsicker, Under-Inspector for Instruction in Manual Training, Paris.

M. Baudrillard, Director of the National Professional School of Vierzon.

M. Berthuin, Director National Professional School of Voiron.

Mlle. Elise Luquin, Inspectress of Special Courses for Commercial Instruction, Lyon.

M. Felix Martel, Inspector of Primary, Superior and Professional Schools, Paris.

M. Denis Poulot, Municipal Councillor, Paris.

GERMANY.

Professor Biedermann, Professor, University of Berlin.

Dr. Woldemar Goetze, Director Manual Training College, Leipzig.

GREAT BRITAIN.

ENGLAND.

F. K. I. Shenton, Head of Educational Department, Crystal Palace, London.

The Hon. Mrs. R. E. Colbourne, Directress of Needlework, Canada Buildings, London.

William Mather, M.P., London.

Arthur Montefiore, London.

C. G. Holyoake, Member National Association for Promotion of Technical and Secondary Education, London.

Miss Emily Robinson, Honorable Secretary of the Yorkshire Ladies' Council of Education, Leeds.

SCOTLAND.

John G. Kerr, M.A., Head Master Allan Glen's School, Glasgow.

ITALY.

Professor Luigi Sutto, Ascoli-Piceno.

JAPAN.

Mr. Koyama Kenzo, Tokyo Technical School, Tokyo.

NORWAY.

Herre K. Kjennerud, School Inspector, Christiania.

RUSSIA.

M. A. de Nebolsine, St. Petersburg.

SWEDEN.

Herre Augusto Abrahamson, Nääs, Floda Station.

Dr. Ambrosius, School Inspector, Gothenburg.

Fröken Hulda Lundin, Superintendent of Needlework in the National Schools of Stockholm.

Professor K. E. Palmgren, Practical Industrial School for Boys and Girls, Stockholm.

Fröken Eva Rodhe, Gothenburg.

Herre Otto Salomon, Principal of the Seminary for Sloyd-Teachers, Nääs, Floda Station.

UNITED STATES.

CALIFORNIA.

Mrs. S. B. Cooper, San Francisco.

Paul Garin, Principal of Drawing, Public Schools, Oakland.

Miss Emma Marwedel, Berkeley.

CONNECTICUT.

L. L. Camp, Principal Dwight School, New Haven.

DISTRICT OF COLUMBIA.

W. B. Powell, City Superintendent, Washington.

ILLINOIS.

Albert R. Robinson, Principal English High and Manual Training School, Chicago.

H. H. Belfield, Director Manual Training School, Chicago.

Augustus Jacobson, Chicago.

Miss Josephine Locke, Board of Education, Chicago.

KANSAS.

John D. Walters, Manhattan.

LOUISIANA.

William C. Stubbs, Sugar Experiment Station, New Orleans.

Prof. William Woodward, Tulane University, New Orleans.

MARYLAND.

Duncan C. Lyle, McDonogh School, McDonogh.

John W. Saville, Principal Manual Training School, Baltimore.

Dr. Richard Grady, Baltimore.

Hon. John T. Morris, Baltimore.

MASSACHUSETTS.

Charles H. Ames, Boston.

C. H. Balch, Teacher of Drawing, High School, Roxbury.

T. M. Balliet, Superintendent Schools, Springfield.

General A. Hun Berry, Boston.

Mrs. Mary Dana Hicks, Boston.

Professor George B. Kilbon, Principal Manual Training School, Springfield.

Albert P. Marble, Superintendent City Schools, Worcester.

Mrs. Quincy A. Shaw, Boston.

MINNESOTA.

W. F. Decker, Supervisor of Manual Training, Minneapolis.

Miss Fannie S. Guptill, Minneapolis.

C. M. Jordan, Superintendent Public Schools, Minneapolis.

MISSISSIPPI.

Dr. Robert Frazer, President Industrial Institute and College of Mississippi, Columbus.

MISSOURI.

Professor C. M. Woodward, Director Manual Training School, St. Louis.

NEW YORK.

Professor F. W. Hooper, Brooklyn Institute, Brooklyn.

Dr. Felix Adler, Society for Ethical Culture, New York.

Miss Grace H. Dodge, New York.

W. S. Goodenough, Board of Education, Brooklyn.

Hon. Charles H. Ham, United States General Appraiser, New York.

Dr. Paul Hoffman, New York.

Samuel G. Love, James Pendergast Free Library, Jamestown.

F. B. Pratt, Pratt Institute, Brooklyn.

Professor Charles R. Richards, Pratt Institute, Brooklyn.

OHIO.

Frank Aborn, Drawing Master, Public Schools, Cleveland.

Professor Newton M. Anderson, Principal Manual Training School, Cleveland.

Professor H. W. Compton, Principal Manual Training School, Toledo.

Miss Annie Laws, Cincinnati.

PENNSYLVANIA.

F. Mason Mitchell, Manual Training Department Girard College, Philadelphia.

R. D. Crawford, A.M., Principal of Schools, Tidoute.

Dr. A. H. Fetterolf, President Girard College, Philadelphia.

H. C. Missemer, Superintendent Public Schools, Erie.

Professor J. Liberty Tadd, Principal Industrial Art School, Philadelphia.

TENNESSEE.

Olin H. Landreth, Engineering Department, Vanderbilt University, Nashville.

VIRGINIA.

C. E. Vawter, Miller Manual Training School, Crozet, Washington.

George R. Carothers, Manual Training Department Public Schools, Tacoma.

INDUSTRIAL AND MANUAL INSTRUCTION.

INTRODUCTORY ADDRESS.

BY PROFESSOR JOHN D. RUNKLE, OF THE INSTITUTE OF TECHNOLOGY,
BOSTON, AND PRESIDENT OF THE DEPARTMENT.

THE proper introductory word on this occasion is one of rejoicing. I heartily congratulate you that it is possible for the subject of industrial and manual instruction to get a hearing in so public a place as this International Congress of Education. Only a few years ago, as you well remember, it would have been deemed questionable, if not an impertinence, to ask a large body of educators to discuss its merits seriously ; and the fact that, to-day, advocates of the cause are not simply tolerated, but cordially invited to present its claims in your presence, marks a long step in the general recognition of this department of public education.

It is obvious that the social and economic conditions of a country not only suggest, but must ultimately determine, its system of public education. What to teach, and how to teach it, must mainly depend upon the demand which will be made upon the rising generations when they leave the school and enter upon the duties of active life.

All history pronounces this a trustworthy test.

If the empire of Confucius accented the old in education rather than the new, it was because the groundwork of the Chinese civilization was laid in tradition and not in science and the industrial arts. If the ancient Romans trained their youth for politics and war to the neglect of the arts of peace, it was because there was not then a demand for skilled productive labor.

Did the men of the middle ages think hand-work degrading ? That contempt for honest toil had its source in the low social and economic conditions of the times. To-day science and the useful arts are the large, if not the controlling factors of our civilization, and it is in these directions that the tide of greatest activity is constantly flowing. The World's Fairs, as they are called, of the past fifty years, have been great public object-lessons in proof of our proposition. In every one of these international expositions the products of the world's industries have largely predominated, showing that a correspondingly large proportion of the world's workers must be engaged in industrial pursuits, and therefore need an education in which industrial considerations and ends shall not be entirely ignored.

Nor should we overlook in this connection the great educational value of these expositions. It will be sufficient simply to refer to the artistic revolution which the porcelain and textile industries of Great Britain have undergone since the exposition of 1851 ; and to the further fact, that industrial and manual instruction, in the public and higher schools of the United States, is largely the result of our Centennial Exposition at Philadelphia in 1876.

It is also certain that the great Columbian Exposition of 1892 will not fail, in still larger measure, to produce like results, and to convince the most skeptical that the future prosperity of the nations is bound up and made one with the development of industrial and manual skill through properly arranged systems of education.

Japan has already broken through her centuries of isolation and adopted the forms and spirit of our modern civilization ; but, in so doing, she has also recast her ancient educational system in line with modern industrial developments and needs, that the rising generations of her children may grow up in the spirit of their new environment. When China shall substitute the forces of steam and electricity for human muscle, and introduce the railroad and the telegraph, with all the useful arts which minister to modern needs, then will the old education be found useless and meaningless, and the new will take its place, as in Japan.

The duties of children in all their family relations may well be left to the parents, and in all their religious and spiritual relations to the home and the Church ; but it is the bounden duty of the State to so educate all its children, that, when they come to assume the duties of citizenship, each shall find the place in the body politic which it is best adapted to fill.

This means that all should be educated in the language of the State, that they may best grow up in harmony with its laws and institutions ; and so educated both bodily and mentally that they may enter upon the duties of active life imbued with its spirit, and best prepared to meet all its demands and responsibilities.

The truest unity in the body politic consists in the broadest development and widest activity of each individual member. Feudalism, slavery, and all forms of serfdom, have been passing away with the advent and progress of the useful industrial arts. Even Indian savagery is yielding more readily to the arts of peace than to brute force. What other proof do we need of their civilizing and refining agency than the work of the sainted Armstrong and Hampton ?

If the United States Government would cover all the waste fields of our illiteracy with such schools, the millennium of our highest hopes would soon dawn upon the new world given to us by Columbus.

When the social and economic relations, in even the best centers of our civilization, have been fully and rightfully adjusted to the new industrial

conditions, we shall find that industrial and manual instruction has had the great, if not the greatest, effect in producing this beneficent result.

An eloquent writer has well said : "The discovery of America was the crowning act of man's emancipation. In sweeping away the last vestige of the theory on which patristic geography was based, Columbus freed mankind. In the cry of 'Land ho !' with which he greeted the new continent, he sounded the death-knell of intellectual slavery.

"The discovery of another continent startled the people of Europe from the deep sleep of a thousand years, and sent a fresh current of blood surging through their veins. A new world having been discovered by one man, it was natural that all men should be put upon inquiry ; hence the era of investigation, the resulting discoveries of science, and their innumerable applications, through the useful arts, to the fast-multiplying needs of man."

NEW DEMANDS UPON SCHOOLS BY THE WORLD'S INDUSTRIES.

BY PROFESSOR C. M. WOODWARD, OF WASHINGTON UNIVERSITY,
ST. LOUIS, MO.

Thesis : The new demands which the world's industries make upon the elementary schools. This question will be considered under the heads of Ethics, Education, Economics.

DR. SAMUEL JOHNSON thought that the chief aim of education was to cultivate high ideals and enable one to enjoy educated society. He thought one rarely needed science, but was perpetually a moralist. He said the orators and poets and historians furnished the most maxims of prudence and the best materials for conversation. According to his view, if a boy was to make knives at Sheffield, ships at Glasgow, or engines at Manchester, he had no need of education beyond such as he would pick up while learning his trade. He had no idea of educating more than one boy out of ten. As a rule, these selected boys went through the great endowed schools to the universities, and became the leading scholars, statesmen, and gentlemen of leisure in England.

Elementary education, as the term is used in our thesis, deals chiefly with the other nine boys. What demands do the world's industries make upon them ? The purpose of this question could be got at equally well by asking : "In view of the world's industries, what new demands do the children make for elementary training ?" The children have rights, and they make demands. What are they ? First, they have the right to be harmoniously educated. They are to live in a broad community, one with many interests, many activities, many kinds of culture ; it is their

right to prepare for all, to come in contact with all, to participate in all finally.

The children have a right to ask for any kind of real culture. I have said that there are many kinds. Let me expand that statement. There is a culture that comes from a knowledge of Latin and Greek. No one familiar with it doubts its value. There is a culture even more profound in the study of mathematics and its application to the whole domain of physics and mechanics. There is a culture in history and literature, wherein all of us share, though no one can absorb it all. There is a culture in art and architecture, another in zoölogy, another in chemistry and its applications to industry, and still another in the theories of construction and the processes of mechanism—and I know not how many more. These cultures are not only possible, but real, and I am persuaded that their influences upon character and life are more nearly equal than is commonly supposed. You may find pure, high-minded, useful men and women in every field of culture. If we consult the needs of society we shall find that we need them all, and that the more highly each is developed, the better for society. Beyond question our children have a right to all these cultures. Now, what do they demand?

They demand equal preparation for all. The head cannot say to the hand, I have no need of thee; the feet cannot say to the body, We have no need of you. For all are necessary to each, and each to all.

This demand is not fully met in the elementary school. Let us lay aside pride and call things by their right names. Don't shut the book in my face and declare that I am an enemy, when I am only a friend who loves the schools and who would do them good. They are not perfect; they can be improved. New elements are demanded. Let us see what the schools do, and what they fail to do.

1. They teach reading and something of composition and literature. Good. I will only ask that with their writing and reading they cultivate the art of talking, so that one may not, as now, write one language and talk another.

2. They teach the rudiments of mathematics. Good again. Every one needs them.

Our thesis directs us to consider ethical, educational, and economic values: *i. e.*, we are to consider how a culture affects morals and conduct; how it develops and invigorates the intellectual powers; and how it shall ultimately enable one to earn his bread, build his home, and fill it with comforts and luxuries, the arts and refinements of good living. These three aspects of elementary education are all to be considered separately, as well as in their interdependence. They are mutually dependent, for true economy comports only with intellectual power; and without material prosperity there can be neither morals nor art.

The points already named cover the three R's, but it is clear that not

more than half the demands are met. Even when you introduce the study of geography with maps and models, and the history of the race as given in books, you have covered not more than half the ground. Thus far the schoolroom might as well have closed walls, with light from the sky, so that not a glimpse of the world of to-day, its life and activities, is possible. I have been in scores of such schools, and so have you. Half the people in America never were in any other.

Some people defend such schools. They admit that the child's total education should be much broader, but that school education does not, and ought not to, attempt to cover the whole ground. School education is mainly concerned with books, they say; all else is outside. The study of the life and activities that surround us; the use of hands and eyes and executive powers; the formation of habits of close observation, exact expression, and precise doing; the cultivation of systematic thinking and planning; of stimulating a love for what is beautiful, and a respect for what is useful—all these things lie beyond the domain of the school.

That claim I deny. Doubtless schools were first organized to teach reading and writing, and little else; but their function to-day is broader, and it is our duty to make them broader still. I care very little for what they were two hundred, or twenty years ago. I am concerned with what they should be to-day. The children, society, and the world's industries make these new demands, and they must be met.

Let me specify exactly what I mean. The children are between six and fourteen years of age.

1. One hour per day should be spent in the study of biology—insects, animals, birds, plants, trees, and flowers. I am ashamed to say that I am almost as ignorant of birds and insects as though I had been born blind, yet nothing would have delighted or stimulated me more when I was a boy at school. How easily, with a competent teacher and few appliances, I might have studied the forms, growth, characteristics, habitats, and functions of living things! One bird, one insect, one plant, or one animal per week! Why, I should have been a different man in many ways, with such a culture. But no; for nearly half the hours I was in school, so far as sharp intellectual activity was concerned, I was industriously doing nothing—just killing time. I venture to doubt even the moral value of that self-control which comes from compelling one's self to sit still and do nothing. [Color *versus* form.]

2. Another hour per day should be devoted to the culture of the executive powers, an appreciation of what is beautiful and useful, and a mastery of some few instruments and materials. I got nothing of all that in my elementary schooling—my early education was fearfully neglected. If I got anything on those lines among the hills of New England, I owe no thanks to the school for it. These elements are not difficult to teach, and they are easily provided for. The materials most convenient are paper,

paints, textiles, clay, and soft woods ; the instruments are knives, pencils, brushes, scissors, needles, and for the oldest classes, small saws, planes, chisels, gouges, bits, hammers, etc.

I do not wish to specify this work in detail any more than I would what stories the teacher shall tell, or what birds shall be studied during the natural history hour. It is important that whatever is done be done deliberately, on a clearly defined plan, and for the purpose of illustrating a definite process, showing the correct use of a tool, or effecting a definite result. My emphatic warning is that the teacher be modest and not attempt too much. Be careful not to mistake the shadow for the substance. By attempting too much, you will secure less.

No special industrial work should be thought of in elementary schools ; but let the work look broadly and equally in the direction of language, science, art, and industry. You will thus secure harmonious development and culture, and at the age of fourteen your pupils will be in the best possible condition to enter upon secondary education.

Thus my answer to the thesis is : The world's industries, the well-being of the commonwealth, and, above all, the conditions of harmonious development, demand that the study of natural history by the laboratory method, and that an elementary form of manual training, each occupying from forty to sixty minutes, according to grade, should enter into the daily program of every elementary school.

To gain time for this work, I would extend the school sessions a total of from forty to sixty minutes, and I would shorten the time given to arithmetic, definitions of words, and remote geography by an equal amount, unless, as in many cases, there are idle hours which may be filled with this work. I submit these views without further argument.

THE FRENCH SYSTEM OF INDUSTRIAL AND MANUAL INSTRUCTION.

[This subject was presented in a paper by M. Eugène Martin, director of a primary and higher elementary school in Paris. The paper was not secured for publication. The following discussion of this subject, by Professor Woodward, will enable the reader to understand the main features of the French system of industrial and manual instruction, including the changes recently adopted.]

DISCUSSION.

PROFESSOR C. M. WOODWARD, of the Washington University, St. Louis, Mo. I was glad to learn from Mr. Martin that the plan of "a shorter course in the arts, and then a specialization with reference to some definite industrial pursuit," is no longer their only system ; that general manual training schools, much like our own, now exist in France.

Several years ago I visited the school on the Boulevard de Villette in Paris. It was of the type referred to in the thesis. Some four trades were taught. The "shorter course in the arts" consisted of a rapid tour through the four departments, with a

view to finding out what each was like, and how the work would suit one's taste or fancy, or outside opportunity ; then came a choice, and a devotion of all the rest of the time to one course. The school did commercial work, having several skilled workmen who had charge of the apprentices and helped them in their work. In another congress (elementary education) I have spoken against trade schools in public education. They doubtless have a proper place in private institutions, but not in the schools we are here considering.

Accordingly I shall here confine myself to a comparison of the methods (a) and (b).

(a) A series of graded models embracing the fundamental principles of the art.

(b) A series of completed, and more or less useful, articles.

No particular art is here referred to. It is presumed to be one where special materials are wrought, and special tools are used. The object of the training is supposed to be to master both tools and materials. By the mastery of a tool a good deal is meant. The forms of tools are not matters of caprice or accident. They have been evolved from the brains of the most skillful users, and no one can use an important tool correctly without teaching and practice, any more than he can a sword, or a rifle, or a tennis racket.

Take a joiner's chisel. It has two functions, mortising and paring. Its use is mastered by mortising and paring under the instruction of a skillful user. The wood may be hard or soft ; it may split easily or with difficulty ; the mortise may be "open" or "blind." Now, what is the educational method for mastering the use of the chisel on different woods ? The "points" in a good mortise are, that it shall be exactly to the line on every side ; that it shall be sunk in exactly the right direction ; that the material shall not be split or jammed on either side, or at the end ; that the inner faces shall be smooth and true ; and, finally, it must be made with the least possible expenditure of time and energy. Now, shall the pupil make several doors, or window-sashes, or toy carts (one in each kind of wood), or shall he practice on small pieces of wood of different kinds, making mortises in each, till he is reasonably perfect in his work—not covering the mortise by a great deal of other work that he has no need to do ?

How does your man with a rifle ? Does he go about shooting at cats, and dogs, and thieves, and other "useful articles," till he has learned to use his gun correctly, or does he shoot at a target at different distances till he is a good shot before he shoots at game ? Shall a child at the piano or violin learn difficult movements by practicing those movements by themselves, or only as they occur in regular "pieces" ?

I am convinced that the demand for "complete" articles is based on a misconception of the object in view, and a failure to see where "completion" and perfection lie. If the object is a perfect mortise, then nothing but a perfect mortise can "complete" the task.

But you ask, Where is the tenon which is to fit the mortise ? Should that not always be made too ? I answer, There is no educational need of it. The tenon is another step, a different exercise ; requires different tools and different methods. The tenon is not going to determine the quality of the mortise. The possible fact that one fits the other does not prove that either is correct, for both may be wrong. There is an absolute standard in every case, and nothing should be allowed to obscure it. The fact that in the construction of a useful article a mortise and tenon *do* fit is apt to cover up a multitude of sins. Your maker of useful articles will often continue to be a poor workman, because he will never stop to learn. He gets a certain amount of exterior form-study, but he masters nothing. He gets excessive practice where he does not need it, and too little on difficult points.

From what I have said, it is evident that in a manual-training school—I am not speaking of the elementary grades, but of boys of from fourteen to eighteen years of age—time is too precious to be spent in construction. A skilled and educated teacher can cull out the principles, the essential processes, and devise exercises which shall

embody them logically with the least amount of waste material. I hold that the making of a bureau by a boy who is aiming at educational growth is wasteful in the extreme. A thing is educational which increases the range of our vision or the strength of our grasp. Repetitions of familiar steps profit little and consume time. I was told the other day of four boys who spent all their shop-time for twenty weeks making a desk to bring to the Fair. To permit such a thing was an educational crime. As well stop your class in arithmetic, and have them add the census tables, or extract the square root of two to a hundred places.

Finally, why this feverish anxiety to produce something useful? Is the economic bearing of manual training less evident than in science and literature? Is it not sufficiently useful if one masters tools and materials, learns to make and read exact drawings, and acquires the ability to analyze a construction into steps which he knows he can take if he wishes? The school is to fit one to be useful; it is not a factory, nor a place for manual labor. To get the greatest educational result from manual training we must extend as much as possible the range of rational study of the arts which underlie constructions, applying those arts only when it is necessary to illustrate its economic bearing. In the St. Louis Manual Training School it is our custom to require of each student a single example of synthetic work at the end of each series of elementary principles. For instance, the alphabet of iron and steel forging, where the ever-present agency is that of heat, consists of a very few letters. The number of applications in a score of industries is very great, but one can count the fundamental processes on his fingers. We study these processes separately, unmixed with foreign elements, till each is clearly seen in its nakedness; and at the end of the series, each pupil by himself—not the whole class together—designs or selects a synthetic exercise, embodying as many elements as possible, and yet lying within his easy range, and constructs it. These composite pieces are technically known as “finals.” These “finals” are chiefly useful in showing the pupils how all-embracing the elements are. A child who has learned to write correctly the twenty-six letters can copy a play of Shakespeare or an oration of Webster if he will but be patient. These “finals” differ with different pupils and from year to year, and they make an interesting display at our June exhibitions; but if too freely used at a World’s Fair they are in danger of misleading, for they do not reveal—they rather hide—their mission.

I am clearly in favor of the graded series of exercises, embodying as nakedly as possible the fundamental principles, with a single “final” at the end. Please bear in mind I have not been speaking of primary grades, where the pupils are quite too young to be able to sustain an interest in details and abstractions. They want things, not parts of things. Neither have I spoken of grammar grades, where great care must be exercised that one does not philosophize too much. In every case the end in view must be wholly in view, not only to the teacher but to the pupil.

SLOYD FOR ELEMENTARY SCHOOLS CONTRASTED WITH THE RUSSIAN SYSTEM OF MANUAL TRAINING.

BY GUSTAF LARSSON, PRINCIPAL OF SLOYD TRAINING SCHOOL,
BOSTON, MASS.

THE sloyd system had its origin in Sweden, where it has been practiced for over twenty years; the word sloyd at once suggests its history, gives credit where credit is due, and, being an unusual word, it attracts attention and stimulates inquiry.

The word *sloyd* means manual training for the sake of general development, physical, mental, and moral ; and it also means that kind of hand-work which will best stimulate the right kind of head-work ; and as this word alone sets forth the true aim of this system, it seems desirable that it be retained. The general aim of *sloyd*, then, is the moral, mental, and physical development of the pupil, the mental development being secured by help of the physical. In other words, a definite effort is made to provide such manual work as will arouse a mental enthusiasm, the value of which will be felt in all the intellectual work of the school. I am aware of the fact that this is the aim of all truly educational manual training. The difference is found here in means and methods.

The methods of the Swedish *sloyd* system are based upon the following ideas :

(1) The exercises should follow in a progressive order, from the easy to the difficult, from the simple to the complex, without any injurious break, and with such carefully graded demands on the powers of both mind and hand that the development of the two shall be equal and simultaneous. This duality of progression is an essential feature of *sloyd*. It cannot be shown in any course of manual work ; nothing but careful observation of the child's gain of power in many directions will show the result aimed at in manual training.

(2) The exercises should admit of the greatest possible variety ; they must avoid any tendency either to too great *mental* tension, confusion, or *physical* strain. There is a danger here not always recognized, for it takes a careful observer and a true teacher to discover that a model may be at the same time too easy for the hand and too difficult for the mind ; or, in other words, the hand may be well trained by a model which gives the mind little or nothing to do.

(3) The exercises should result in the making of a useful article from the very outset ; that is to say, the use of which is appreciated by the child. This arouses and sustains the child's interest in his work, helps him to understand the reason for every step, for he can see to what these steps lead. It makes him careful in his work, for he soon learns that poor work will spoil a model which is worth something. The child's self-respect and pride are also aroused ; he is not only learning to make, but is actually making. He has joined the great army of producers, and he has before him tangible proofs of his progress. If the child is encouraged to make these things for others, it helps to develop unselfishness. Much of the moral value of *sloyd* inheres in this "useful" model. Some persons, ignorant of its true purpose, have thought it owed its place in this system to its industrial value only. But the truth is that the useful model is valued above all for the mental and moral development secured by exercise of the creative faculty.

(4) *Sloyd* seeks also to cultivate the æsthetic sense by combining in the

models beauty of form and proportion with utility.* Throughout this system, as in the kindergarten, the love of beauty is regarded as an important factor in education, while an eye for symmetry and grace, although a rare possession, has been proved to have great practical value even for an artisan.

(5) Every model should be so constructed that it can be drawn by the pupils themselves, not copied or traced. Drawing is an essential feature of sloyd as applied in Boston, and should always be preliminary to the making of the model.

(6) For children who are old enough for the regular sloyd, it is believed that the knife should be the first and fundamental tool. There are several reasons for this which will be mentioned later.

A radical difference between the Russian and the Swedish systems is that the Russian methods are based upon the idea of teaching the use of certain tools by making incomplete articles, with the belief that out of such teaching will come good educational results, even without much attention to the special needs and capacity of the growing child, either by the choice or the sequence of tools or exercises.

The Swedish system, on the other hand, is based upon the Froebelian idea of the harmonious development of *all* the powers of the child; tools and exercises being chosen with reference to this end, and all merely mechanical methods being carefully avoided. The sloyd teacher does not say, "Now I will teach this boy to saw, and he shall continue to saw until he can saw well," regardless of monotony or the too prolonged use of the same muscles. The problem of the sloyd teacher is to find the tool, whether knife or saw or plane, and also the series of exercises, best adapted to the present need, not of man, but of the average pupil; and also to vary or alternate the tools and to graduate the exercises with constant reference to the growing capacity, the formative age, and to the various activities of body and mind. It should be said right here that while the methods of sloyd are less like those of the mechanic than those of the Russian system, not aiming at immediate technical skill, there is abundant proof that the *results* of a thorough sloyd training will be found to include all that is gained even mechanically by the Russian methods, *plus* a far more *generous general* development, including greater delicacy of observation and of manipulation.

The sloyd course now being used in Boston calls for the use of forty-five different tools in seventy-two exercises applied in thirty-one models. Among these exercises are fifteen different joints.

Another important difference is seen in the importance which sloyd

* It has been said by one interested in manual training that "the pupil must be led to see and feel the simple beauty of proportion, of harmony of parts, as well as grace of outline: elements of beauty which are a direct outgrowth of the useful, as well as the beauty of mere ornament, which is sometimes more or less externally added. For this reason sloyd attaches much importance to the free-hand modeling in wood of solid forms."

attaches to the use of *the knife* as the first tool given to the child ; regarding it as the most familiar and least mechanical of tools, which gives a development of the muscles of hand and wrist peculiar to itself, a development which modern psychologists teach us is also conducive to the *physical development of the brain*; the familiarity of the tool, as well as its danger, making it possible to secure constant concentration of thought upon the exercise at the outset.

Sloyd methods are unlike Russian methods in giving great prominence to *form study*, and in the method by which all form work is made—methods which are quite unlike those of the carpenter, because the first care of the sloyd teacher is that the muscular sense of form be developed in the child rather than that the curves be accomplished in the quickest and easiest way.

Again, the exercises of sloyd furnish greater variety than those of the Russian system, and the fact that small models can be finished in a reasonably short space of time helps to increase and maintain a healthy interest and to train the sense of completeness which is so unfortunately wanting in many educational processes.

Sloyd methods provide more carefully than is true of some others for the physical development by a judicious choice and sequence of tools, positions, and exercises.

Finally, and most prominent of all differences between the systems, is the insistence of sloyd upon the use of the *completed model*, in place of the prevalent Russian exercise with tools. The reasons for this faith in the educational value of the completed useful model are identical with those which have so largely influenced modern pedagogical methods in other departments of education, that the *phrase* has now driven the spelling-book out of school, and the writing-lesson is no longer confined to the copy-book.

Sloyd demands a trained teacher. It is easily seen that the successful carrying out of these ideas depends upon the teacher's comprehension of the object of the teaching, and of the capacity and needs of the child, as well as upon his ability to impart the knowledge he has acquired. A good teacher is not necessarily possessed of the great manual skill of an expert, but he must understand childish intelligence and know how to lead the child in his work.

I am happy to state that a large number of Boston teachers are now studying the subject of manual training, and that over ninety-five are taking a normal course in sloyd.

It is not always enough that a child should be told how to use a tool. The teacher must oversee the work of each child, to make sure he has a clear idea of what he has to do. Sloyd puts much emphasis on the value of individual instruction, but it must not be supposed that by individual instruction is meant a constant watchfulness of each pupil, much less

that the teacher shall take the work into his own hands and give the pupil too much help. A good teacher will not teach too much, even if he has but one pupil. Class instruction can be given as regards much of the manual work, drawing, positions at the bench, the use, adjustment, and care of tools, etc. ; but the best results of sloyd will not be attained unless a teacher is able also to oversee individual work enough to satisfy himself that his pupil has a clear idea of what he is to do, that he understands the reasons for it, and is not working without thought, mechanically following half-understood directions, and so losing the intellectual value of the exercises. To do this it will be seen that classes must not be too large. Allowance must be made for difference in physical and mental capacity. It is no matter if two-thirds of the class is in advance of the other third, provided that each pupil receive as much as he can digest. This is not a lesson in memorizing, a test of which is easily applied ; here is an attempt to appeal to the perception, the judgment, the ingenuity, the reason, by means of the hand and eye—the *visible results* of which may be good, while the unseen object of *it all is unattained*. Special individual care, therefore, is necessary to make sure that the intellectual development of the child is secured, and teachers must be constantly warned against the danger of *satisfaction with mere manual skill*.

True sloyd is taught only when by the exercise of many faculties the mind is led, step by step, to careful and accurate thinking. Sloyd, like the kindergarten, has suffered much from inadequate presentation, and the public have been made more or less familiar with its outward form while wholly ignorant of the aims and psychological basis of its methods. It is for this reason that while a certain number of persons are always to be found who are attached to the sloyd models merely because they are useful, others, equally unthinking, are suspicious of the same models because they are not those of the carpenter's shop, for which reason they are characterized as impractical. Neither of these classes of persons is in a position to do justice to the subject, because neither of them understand the aim of the system or the significance of the exercises embodied in the models, each one of which holds its place in a progressive course of work for a definite reason and as an essential step in the ladder. It will be seen, although sloyd models may be adapted to the differing needs of times and places, they must not be taken bodily out of the course, transported, and even arbitrarily combined with other systems and methods whereby they at once lose all their educational value. It is by such rough handling of its outward symbols that sloyd has suffered, as its mother, the kindergarten, did before it. Let us hope that a better understanding of its methods and of the principles upon which they rest may commend it to students of the philosophy of education.

MANUAL TRAINING IN RUSSIA.

BY E. KOVALEVSKY, OFFICIAL DELEGATE FROM RUSSIA.

HAVING been apprised only yesterday evening that my name had been placed in the programme of to-day, I had not time enough to prepare a more important report, and beg therefore to be excused if I confine myself to a short answer to the questions that have been asked concerning the claims of the two systems of manual training, the Russian and the sloyd.

Manual training, according to the opinion of the Russian pedagogue, must be :

- (1) *Taught in a thoroughly systematic manner.*
- (2) *Awaken the interest of the children for physical exercise.*
- (3) *Give certain practical results.*
- (4) *Develop some amount of dexterity of the hands.*
- (5) *Accustom the children to order, punctuality, and cleanliness.*
- (6) *Correspond to the physical and intellectual powers of children.*
- (7) *Develop the æsthetic feeling.*
- (8) *Serve as recreation for children when they are tired by the intellectual work.*

We consider manual training entirely as an object of *general* education, but not as one of a *special professional* character.

Manual training was much thought of in Russia as early as the twelfth century ; somewhat later in the Moscow period of Russian history it was thought advisable to teach it to children. Our great reformer, the Emperor Peter the First, himself gave an example of manual exercises by his carpentering and other kinds of work. He introduced manual training into the military schools. This sort of training, abandoned in the second half of the eighteenth century, was once more introduced in the year 1856, in the Finland primary schools, according to the project of the Rev. Unos Signeus, and some years later it was put into the normal schools.

In Russia, on the proposition of the Permanent Commission of Technical Instruction, it was organized in 1880 ; lectures upon this subject were given during six weeks of the summer season of the normal school for the rural teachers. In 1884 the regular occupation in manual training took place in the teachers' college at St. Petersburg. The system of manual training at this college was accepted later in all the schools where that branch is taught. Now it is taught in four teachers' colleges, fifteen seminaries for teachers, six civil gymnasiums and schools ; in eighteen military colleges, in eleven places of temporary manual-training courses for teachers, and in about one hundred and fifty town schools and elementary village schools.

The difference between the Russian system and the Swedish sloyd is that in Russia the instruction in manual work is connected, as it is in France, with the teaching of drawing and geometry, the course being formed of series of successive lessons of woodwork. Any one interested in this question is kindly invited to visit the Russian section of the Liberal Arts Building, where can be seen an album treating of this subject.

DISCUSSION.

DR. H. H. BELFIELD, Director of the Chicago Manual Training School: I do not regard sloyd as a rival of the system of woodwork practiced in the schools known as "manual-training schools"; on the contrary, I welcome it as a possible means for filling the gap between the kindergarten and the manual-training schools, since it is designed for younger pupils than those found in the last-named training-schools.

The system just presented to us by Mr. Larsson is a great departure from the Swedish sloyd which came to us several years ago. In common with many others, I had no hesitation in condemning that system as not adapted to American ideas and conditions. Mr. Larsson has shown courage and pedagogical knowledge in introducing the Swedish models, and in insisting upon drawing and in adding to the tools supplied to the pupils. I welcome Mr. Larsson's system, therefore, as an earnest effort to solve a problem which has occupied our attention for years.

One of the fundamental principles of sloyd, as I understand it, is the presentation of models and exercises that will develop and retain the interest of the pupils. As Mr. Larsson puts it: "That system is best which creates the most interest in the pupil." This is also one of the strong features of the kindergarten, and is at once both a strength and a weakness. In the training of young children this development of the child's interest is essential to success. I think the American child, with his acute perceptions, is on the alert, like the old Athenians, for something new, and his attention will be attracted to other things than the matter in hand unless the teacher succeeds in fixing his mind upon the lesson. But as the child advances in years he should cultivate the faculty of concentration, even upon uninteresting subjects, sustained by the thought that the present tedious work will find its reward in the future. It is wise, therefore, I think, that the sloyd work should consist of useful articles or toys, deferring systematic instruction in the elements of joinery, etc., till a more advanced age.

PROFESSOR C. M. WOODWARD, of St. Louis: As to these contrasted systems, two things should be said. First, the "sloyd" system as presented by Mr. Larsson is not the Swedish sloyd in any proper sense. Sloyd involves very few tools, chiefly the knife; Mr. Larsson uses the whole kit of joiner's tools. Sloyd used no drawings; Mr. Larsson uses drawings continuously. (Drawing has recently been imported into Sweden.)

Sloyd models, as I knew them freshly imported several years ago, were typical of the useful tools and implements found in a peasant's home in Sweden. Mr. Larsson has retained only the single idea of *use* with complete change of forms. This work presented by Mr. Larsson is *four parts* American to *one* from Sweden.

Secondly, the distance between this system and what is known as the Russian system is exceedingly small. Take, for instance, this tool-rack model of Mr. Larsson. Its construction involves three elementary processes, namely: (1) The exact use of the try-square and gauge for determining *where* to saw and bore; (2) sawing to lines; (3) the use of bits or augers of several sizes. Mr. Larsson does all these things on one

piece. The Russian plan would teach these processes on three or more separate pieces as is here shown in three exercises.

Mr. Larsson insists that it is best to teach a process or the use of a tool only in the construction of a model which shows one way in which it may be applied. The Russian plan assumes that the pupil's entire attention and aim is directed to the mastery of the processes one by one.

Now it is evident to all that Mr. Larsson *does* analyze his processes into elements, and that he teaches those elements separately, albeit on one piece of wood. On the other hand, it is equally evident to every teacher of the other method that, having mastered the elements of construction, the pupil sees around him countless illustrations of their use. In every frame, door, bureau, box, or chest; in every staircase, mantel, carriage, and car, he sees the elements he has mastered and the evidence of skill. While with young pupils in early stages Mr. Larsson's plan may have the preference, it seems to me that with older and more observing pupils the elements may be learned more completely, and may be taken up in a more logical order when no special combination is insisted on.

Again, the ulterior object may have the effect of covering up the steps and of dulling the edge of precision. For instance, if this rack is merely to hold tools, dropped into these holes, the pupil does not see any necessity for sawing the ends so carefully just half-way across, nor does he see why it is so very necessary to box the holes exactly square to the surface. Of course the teacher insists upon the utmost care and accuracy, but it is easier to secure it if accuracy and correct methods are the only things aimed at.

Finally, it may be said that the particular model introduced to illustrate the use of a process or tool imposes a limitation which is unnecessary. When Mr. Larsson's pupil thinks of a dove-tailed joint, he thinks of the bracket which uses it, and he may stop there. The other boy, who has mastered the abstract joint, is directly led to see its use in a dozen constructions which lie all around him. He is the more truly free. Still, as I have already intimated, the interval between these different systems, which to-day are more American than anything else, is so narrow that any one may step across, and I hope we shall not hesitate to step over and help ourselves to the best there is on either side.

Pardon one word more. I have frequently protested against the "prematurity" of putting fourteen-year-old work into the hands of eleven-year-old boys, and I have doubted the propriety of putting joiners' tools (saws, chisels, planes, etc.) into sixth-grade classes (counting from the kindergarten). I still urge extreme caution, but I have seen and heard enough during the past week to convince me that it is *entirely proper* to put edge-tools into the sixth and higher grades. I make this confession with great pleasure, and I desire to say that it has been brought about by the thoughtful reports of Mr. Larsson, the work of the charming little class he has organized in the Children's Building, and the exhibits from Massachusetts, New York City, and London.

INDUSTRIAL AND MANUAL TRAINING IN THE SCHOOL COURSE.

BY W. B. POWELL, SUPERINTENDENT OF SCHOOLS, WASHINGTON, D. C.

Thesis: "Should boys and girls have the same industrial and manual training in all grades?"

IN planning for manual training, which it is assumed is an integral part of the school course, it is first of all necessary to consider the relation that it bears to the other work of the school.

(1) The child must learn to read. Every consideration of good teaching demands that he shall seek information first-hand by contact with things before he is required to learn symbols. The child's first effort in learning to read must be to recognize his own words representing his own knowing, his own feeling, his own willing. It is all-important that these words represent correct and exact ideas.

Knowing by perception from original channels gives to the mind its nuclei, its standards of comparison. Much of this kind of knowledge makes apperception varied and valuable, and insures an ability to know broadly and easily by reception through symbolic channels. The testimony of eye and hand must be compared many times before each becomes independently reliable. Touch, movement, muscular effort are necessary factors in the training of the eye. This contact with things involves handling them, involves preparation of them, adjusting, making; this is manual training, whose early steps must precede, and whose later steps should accompany, every effort in learning to read.

(2) The child must learn number and quantity, the beginnings of which must be learned, if learned properly, by dealing with things. The fundamental conceptions of square and cubic measure are learned by dealing with things, conceptions that make work in these departments of reckoning in later study comparatively easy. The fundamental conceptions of plane surfaces are learned best by making, transforming, and measuring them. This sensuous primary learning renders it not only possible but easy to give the child the elements of plane geometry before he leaves the grammar school. Involution, evolution, and plane and solid geometry are learned first by hand, so to speak. Without the use of the hand in learning these subjects, it is doubtful whether they are ever thoroughly understood.

Much of this manual work is for the purpose of preparing the child for future study, for a correct and adequate conception of what he is to learn later. An appreciation of sensible objects, their manifold conditions and various relations, cannot be neglected in learning mathematics without inevitable loss and even the possibility of failure. We must begin with things, however free from and independent of them we think our way afterward. These things must be handled, must be separated, must be put together, must be divided by measurement, must be compared by measurement with and without instruments—*all of which is manual training* of the best possible character.

(3) The child is expected to learn the elements of science. To do this he must handle and examine nature forms, and must adjust them for purposes of accurate examination. He must experiment, must project; then he must estimate and determine quantitatively, requiring close and accurate work with the hand; he must make and adjust his apparatus. The primary study of plants, to be profitable, includes an investigation of them

as living organisms. A correct examination of seeds and buds, to learn with what care they are protected, and the provision that is made for their life and development before they become independent food-seekers, involves dissection, which, to be valuable, requires much close and accurate exercise of the eye and hand. Then the child must give much care to the preservation of specimens. *This is all manual training.*

(4) The child must learn geography. To start in this work he must come in contact with things; these he must learn to represent in sand and other plastic materials. He must cause steam to be created and to be condensed again, creating rivulets for transporting substances, that he may learn of the carving of mountains and of the creation of valleys; for without an appreciation of the wonderful work of the sun with water, he will never know and understand the chief cause of geographic phenomena. *This is manual training*, than which there is no better.

(5) The child must learn history. The learning of beautiful and useful forms made by man are the beginnings of the study of the humanities, the beginnings of a knowledge of man's influence in the world and of its influence on him; his dependence on, his control of his environment. This is a part of the child's preparation for the study of history. The early steps of this work are essentially exercises in manual training.

(6) The child must learn to draw, which is one important branch of manual training. But the early steps of learning to draw are exercises in handling things in numberless ways, to learn of the facts of form and of the texture of things, and of the facts that are the causes of form and of the texture of things. This is accomplished only by muscular effort in testing, adjusting, and arranging; making or transforming by manual effort, intelligently directed and carefully executed.

Efforts at learning nature forms and other facts of natural phenomena are the first steps in learning geography, for these forms and facts are all geographic phenomena, whether plant or animal, whether biological or physical. Learning the same nature forms and talking about them is the best possible beginning in getting something definitely known to talk about, which, in turn, is the first step in the work of learning to read. So, while accomplishing the many purposes of a varied curriculum, the child is really engaged in but one thing: putting himself in condition to learn most profitably.

The primary purpose of manual training is at least two-fold: first, it is to train the eye and hand to do the bidding of the will, thus securing a more equable development of the person; second, it is to give the learner increased power and adaptability in getting correct information at every step. Of these two purposes, the latter is of the greater importance in the earlier stages of growth and development. Information received without the use of eye and hand is in many instances unreliable, because not full or complete, and is consequently oftentimes misleading. It is therefore

desirable that the training of eye and hand should begin early, that they may help in the work of getting information ; and since this training is not only possible, but is desirable or necessary in the pursuit of all other purposes of elementary instruction, it is left for us only to adjust such training to the conditions of the schoolroom, to properly grade it, and to allot to it its proportional time, and to assign its various kinds of work to the appropriate seasons of the year respectively.

To do this, the superintendent or director of work must know by what instrumentalities and by what processes the child can best learn and can best be trained and cultivated ; he must know each subject in its entirety, must be able to select from each subject that which the child can learn, and must know its relation to all other things he is expected to learn in the grade.

With this knowledge and power on the part of the instructor, it will not be difficult to give the child all the eye and hand training it is desirable for him to get, during the first five or six years of his school life, as a part of the study of such subjects as are now generally agreed should be taught in the primary school. The exercises of manual training connected with the teaching of these subjects, that are assigned to the elementary school curriculum, must not be regarded, therefore, as an extra training, as something that may be given if there is time, but that may be omitted if there is not. It is not so regarded by him who knows what correct teaching is, who knows how the child learns properly. But it must be regarded as a necessary part of correct teaching, as a part which cannot be omitted if the child is to do intelligent work and is to be put in a correct learning attitude toward the work he is trying to do.

Now, since the boys and girls who are to learn the use of their mother tongue, learn to read, learn arithmetic and geography, learn the elements of science, learn the elements of humanistic phenomena or the beginnings of history, must learn them in the same way ; and since manual training is a fundamental part of the learning of the beginnings of all the branches enumerated, it follows that the manual training for boys and girls during the first five or six years of school life not only may be but should be the same.

It will be observed that in what I have said I make no plea for manual training for its own sake, its value having been assumed, but that I contend that all the manual training it is desirable to give the child during the first five or six years of school life is a necessary part of teaching him properly the various branches of knowledge he is expected to acquire ; and that it is a necessary part of the training that will put him in a correct intellectual attitude toward the world he is trying to know.

This is not the time or place to give a detailed course of work. It must be enough to say that such a course as is here shown to be necessary involves work in selecting, isolating, comparing, and determining

nature forms; work with laying sticks and fastening them; work with folding, measuring, dividing paper, and pasting it; work with measuring and dividing lengths, surfaces, and volume; work with comparing by measuring and adjusting sizes with respect to length and breadth and volume; work with paper in measuring, marking, cutting, folding, and pasting, which involves accuracy in details of fitting and matching of parts; work in representing, in plastic materials, nature forms and conventional forms; work in handling, and in many cases in the preparation of, tools by means of which it is possible to do all this—it involves the representation of the nature forms that have been made and of parts thereof by means of the pencil and brush. Every part of this work requires exact seeing of forms, of texture, of position, of use, of change, and demands exact work of the hand in measuring, adjusting, arranging, making, representing, coloring, and otherwise decorating. It is thus seen that no inconsiderable part of a rational and correct teaching of the beginnings of arithmetic, reading, language, geography, science, humanistic phenomena, may be made at once a natural, thoroughly systematic, and an efficient means of manual training.

It may be said further that all this manual training is possible in, and is very appropriate work for, the ordinary schoolroom, which is another reason for giving it to boys and girls in the same grades and at the same time.

It is difficult to say how much time should be given to this work, as it is so connected with and related to other work as not easily to be considered apart from it; but it is safe to say that the manual part of elementary learning need not occupy more than two or two and a half hours of the week of twenty-five hours, including all the time spent in drawing.

While doing this work the child, if taught rightly, learns the value of exactness in making forms and getting size; he learns to be exact in all he does; his eye and hand learn to do the bidding of his will. He learns the use of some tools; he uses the square and compass, the rule and marker, the knife and scissors, the pencil and brush. He learns to use his fingers and the entire face of his hand in determining and making forms of plastic materials; he learns the care necessary in the use of hand and tool in arrangement of plastic materials for the representation of delicate or frail parts; he learns the use of hand for the care and preservation of materials, and thus trains it to be provident; he learns to estimate values in length, surface, volume, and strength, and learns the relation of his own powers to each and all of these.

As I believe that the elements of the physical and biological sciences will never go into the elementary schools as a permanency unless they are taught in their relations as helps to or parts of other requirements of school work; that their supplementary or complementary values as sources of information or as means of discipline or culture, as seen even

by the most sanguine, will not alone secure for them a permanent place in elementary school work : so I believe that the intrinsic value of manual training will not soon secure for it a permanent place in the elementary schools below the seventh or eighth grade as a separate branch of school work.

Fortunately, as there are more potent pedagogical reasons for the introduction of science study, than that the pupils may learn the facts of science, so there are stronger pedagogical reasons for employing manual exercises in learning the elements of the various branches of the school curriculum than that the children may become skilled in the use of their hands.

If the different lines of manual exercises made necessary by the character of work suggested in the foregoing were detailed for our inspection, we should be able to see many schemes of systematically arranged employments for hand training, any one of which would delight the heart of the devotee of industrial education. We should see "courses of training" with sticks, with tablets, with colored paper, with cardboard, with clay, with physical apparatus, as well as with other things. But we are not arranging work to interest or satisfy this person. We are seeking to do all the work of the school as it should be done ; nothing more.

In our presentation of exercises so far, the boys and girls have worked together. We have, however, yet to state that the girls have been giving one hour a week to sewing, for two or three years, in which the boys have had no part. While the girls have been sewing or cutting and fitting, the boys have given attention to numerous exercises in details of work in which they had fallen behind their sisters, such as neatness of penmanship, care with spelling, and style in expression ; while the loss in manual training occasioned by not taking the sewing has been made good by play with playthings requiring skill in their management, such as bicycles, tennis racquets, and other things. There is much manual training in modern play of which the girls, however, do not get their share. The extra work made necessary by the sewing makes good this loss to some extent, and gives opportunity to make good the loss in care and accuracy occasioned by too much interest in games on the part of the boys. Baseball is the cause of the misplacement or omission of many a capital letter or punctuation mark, the cause of many a misspelled word. Opportunity for correcting these two inequalities is needed in mixed schools, which the sewing lessons give.

Up to this time the child has done most of his hand work without tools. His hand has been trained to help in discovering an infinite variety of texture, and almost as great a variety of causes of texture. Nerves, having their end-organs in muscles, have coöperated with dermal end-organs of nerves, and the two with nerve end-organs of the special senses, to identify and correlate qualities of texture or appearance with weight

and toughness and other like qualities; so that the eye sees and the naked palm feels weight or toughness, or the absence of the one and the opposite of the other; and, according to the care and thoroughness with which the training has been carried on, shades or degrees of qualities can be seen and felt without muscular effort. The ear, too, has been so trained that it hears density, brittleness, and other like qualities. Facts have been learned by hand, in conjunction with the special sense organs, until information given by the latter may be relied on as correct. It is largely for the accomplishment of this end that the work has been done at all, and for the accomplishment of it in the shortest time and by the most economical means, that it has been largely done without tools. Without the assistance of muscles and dermal surfaces the special sense organs are not trained. The special sense organs, particularly those of sight and hearing, are labor-saving machines; but their testimony, their registerings, are not reliable unless the organs have been trained. The eye cannot be made to register distance or size with any degree of accuracy except by measuring and looking in conjunction many times. For the purpose of giving to these labor-saving machines the training they should have, manual-training exercises with few tools must be a part of all truly scientific primary and intermediate school work. I have never advocated manual training in the lower-grade schools for any other purpose than that of securing a correct cultivation of those organs through which information and pleasure must chiefly come through life.

This hand training, which has been shown to be advisable or necessary in the beginnings of all elementary work, is also required as a preparation for a training in the use of tools.

Tools are artificial media whose use is acquired with great difficulty. If a knowledge of the reciprocal values of muscle, dermal, and special sense impressions is not secured before the tools are put into the child's hand, his disadvantage will be great. The learner's first effort with tools is to learn to appreciate values through them. If these values are not previously known, but are to be acquired now for the first time, he will not only be trying to do two things at once, but will be attempting to secure information and training through artificial media, which of course will be a slow and laborious process, and which may never be done properly. The values of the correlated instruction of nature's media are best and most economically secured free-hand.

There comes a time in the development of manual training when, to secure for it a permanent place in the school curriculum, reliance must be had on its intrinsic value as a distinct acquisition of educative effort. I have tried to show that such time does not come before the sixth or seventh year of school life above the kindergarten. In my own practice I have assumed that it comes at the beginning of the seventh year.

From this time on the work shows two marked changes, although both changes have been anticipated to some extent; the one by attempts at artistic effects, the other by the use of a few simple tools.

The work with hands, without tools, continues, but becomes more creative than before, being less imitative; or, if imitative, attempts are made to represent what creative minds have seen in and derived from nature forms. The hand becomes a producer now instead of a learner, the work with clay and paper and with pencil and brush being continued. As this is all done in the schoolroom, the boys and girls work together.

The second change alluded to involves the use of tools for the chief purpose of learning their use. For this, workshops and more elaborate outfits of tools are required.

Since the conventionalities of our civilization decree that women are not to do the heavy mechanical labor of our industries, and that men are not to do the skilled work of domestic affairs, it has been found desirable to separate the boys and girls at this point.

The girls go to shops to learn cutting, fitting, and trimming, and to laboratories to learn cooking, while the boys go to other shops to learn the use of tools and machines.

This separation, which continues through the grammar and high schools, is made necessary not only because of the character of tools used, but also because of the character of the materials they work with or upon. The children are getting manual training now for its own sake, and not as before as a part of their academic training. As they are trained for different purposes, with different materials and different kinds of tools or instruments, they must have separate shops and different teachers.

DISCUSSION.

EDWARD BOOS-JEGHER, Director of the School of Art and Female Education, Zurich, Switzerland: In relation to industrial and manual instruction for boys and girls, when made a method of training and combined with other lessons, as advocated in the paper just read, there can be hardly any difference of opinion as to whether the pupils of both sexes should receive essentially the same instruction. But before this question—whether boys and girls should have the same manual training—can be answered, another question must first be answered: Shall any difference at all be made in the education of the two sexes? The opinions about this will differ in different countries. I think all civilized people now tend toward the views common in republican countries—that the same opportunities for general education should be provided for both boys and girls.

In Switzerland we believe that men and women have different duties to fulfill in society, and that the education for both boys and girls should develop mind, intelligence, morals, character, and physical culture, that the men and women may become useful members of society. We do not educate for the sake of education alone, but to secure practical results for the individual and for the general public. Therefore our government pays all the expenses of the schools, including the materials used in them, and school attendance is made compulsory up to the ages of twelve and fourteen.

We give the girls a good training in female hand work—sewing, a little of dress-making, embroidery, pattern drawing and cutting, and needlework—and think the results show good manual training. I do not object to girls learning how to use the

different tools used by boys in manual-training classes. In general education we have reading, writing, arithmetic, natural science, and gymnastics in all the grammar grades, and two languages in the higher grades. We do not have the time to give the girls the same manual training as the boys have ; besides, we should not like to give up any of the hand work for the girls to make room for the hand work for the boys. In any school that provides instruction only in the three R's for the girls, the girls should have an opportunity to learn the manual training in paper and cardboard work, and in carving, etc. ; but I do not like to see a girl or a young woman at work with a plane in school. I do not want a woman to work in a blacksmith's shop, as I saw it in England ; nor work at bricklaying, as I saw in towns in the south of Germany ; nor with a girdle around her waist, drawing a ship, as may be seen in Holland.

DR. PAUL HOFFMAN, Assistant Superintendent New York Public Schools : Much manual training can be given in school without the use of tools ; the first three books of Euclid can be demonstrated by manual work. [He illustrated this statement by folding papers, demonstrating several propositions, and thus showing one phase of manual-training work in the New York public schools.]

MR. CHARLES BENNETT, of New York, believed that manual training was a distinct subject of instruction, not a method ; and that the material instruction should go hand in hand with the intellectual.

DEPARTMENT CONGRESS OF PHYSICAL EDUCATION.

SECRETARY'S REPORT.

FIRST SESSION—WEDNESDAY, JULY 26, 1893.

THE Department Congress of Physical Education meet in Hall No. 26 of Art Palace. Dr. E. M. Hartwell, Director of Physical Training, Public Schools of Boston, presided. This session was called to order at 9.30 A.M., July 26th.

The Chairman made the opening address.

The first paper read was by Dr. T. D. Wood, Professor of Hygiene and Physical Training, Leland Stanford Jr. University, Palo Alto, Cal., on "Some Unsolved Problems in Physical Education."

An abstract of a paper on "Training of the Human Body," by Dr. Angelo Mosso, Professor of Physiology, University of Turin, Italy, was read by Dr. Luther Gulick, of Springfield, Mass.

This paper was discussed by Bergman Oesterberg. Dr. George W. Fitz said the investigations of Dr. Lombard oppose the conclusions of Dr. Mosso. Dr. Sargent emphasized the necessity for gymnastic experiments to corroborate or disprove the results of physiological investigations in the laboratory.

Dr. George W. Fitz, Instructor in Physiology and Hygiene, Harvard University, Cambridge, Mass., read a paper on "The Psychological Aspect of Exercises with and without Apparatus."

This paper was discussed by Baron Nils Posse, Boston; Mrs. M. A. Harper, of Texas.

Dr. J. Gardner Smith, Special Instructor Physical Training in Public Schools, New York City, read a paper on "Physical Exercises for School Purposes—How Selected and Graded."

A paper by Dr. Tait McKenzie, director of McGill University Gymnasium, Montreal, Canada, on "The Regulation of Athletic Sports in Colleges," the writer being absent, was not read, but was presented for publication.

SECOND SESSION—THURSDAY, JULY 27, 1893.

The session was called to order by the Chairman, Dr. E. M. Hartwell, at 9.30 A.M., July 27, 1893.

"English Experience in Providing the Poor of Cities with Parks, Gardens, Gymnasias, and Playgrounds," by the Earl of Meath, London. In the absence of the author, this paper was read by Miss Mary Willetts, of Wilmington, Del.

"Physical Training of Criminals," by Hamilton D. Wey, M.D., State Reformatory, Elmira, N. Y., was read by the Secretary, the writer not being present.

It was discussed by Dr. Sargent, by Baron Nils Posse, and Dr. E. M. Schaeffer.

"The North American Turner-Bund—Its History, Aims, and Achievements," by

Hugo Muench, ex-president of the organization, St. Louis, Mo. This paper was discussed by Miss Le Garde, of Providence, R. I.

"The Royal Central Institute of Gymnastics in Stockholm—Its Aims and Work," is the subject of a paper by Professor L. M. Törnngren, Director of the Institute, in Stockholm, Sweden.

"History of Physical Education in Denmark" was presented by Joakim Larsen, Superintendent of the Fredrichberg School, Copenhagen. This paper was read by Baron Nils Posse. Following the paper, Professor Törnngren spoke of the Danish commission appointed to draw up a gymnastic code for public schools.

THIRD SESSION—FRIDAY, JULY 28, 1893.

Dr. Hartwell in the chair.

"Gymnastics in the Kingdom of Saxony—A Historical Review," is the subject of a paper furnished by Professor Moritz Zettler, of Chemnitz, Saxony.

"The Physical Training of Deaf-Mutes," by Dr. A. Gutzman, Instructor in Institute for Deaf and Dumb, Berlin, Prussia.

A few other papers were presented during the sessions of the Congress of Physical Education, but not furnished for publication.

The large number of papers presented precluded lengthy discussion.

LIST OF PERSONS ACCEPTING THE OFFICE OF HONORARY VICE-PRESIDENT OF THE DEPARTMENT CONGRESS OF PHYSICAL EDUCATION.

AUSTRIA.

Dr. Leo Burgerstein, Professor in Vienna.
Prof. Jaro Pawel, University of Vienna.

GERMANY.

Herr W. Bier, Director R. Training School for Gymnastic Teachers, Dresden, Saxony.
Dr. Ferd. Götz, Manager German Turner Association, Lindenau Leipzig, Saxony.
Herr A. C. Gutzman, Teacher City School for Deaf and Dumb, Berlin.
Prof. Dr. J. Hermann, Berlin.
Dr. J. C. Lion, Director City School Gymnastics, Leipzig.
Dr. F. A. Schmidt, Bonn.

GREAT BRITAIN.

ENGLAND.

The Earl of Meath, London.
Charles Roberts, F.R.C.S., London.
Madame Bergmen Osterberg, Hampstead, N. W.

SPAIN.

Dr. Alfredo Serrano Fatigati, Director Normal School of Gymnastics, Madrid.

SWEDEN.

Capt. C. Silow, Royal Central Gymnastic Institute, Stockholm.

UNITED STATES.

CALIFORNIA.

F. H. Payne, M.D., Director of Physical Culture, University of California, Berkeley.

Thomas D. Wood, A.M., M.D., Professor of Physical Training, Leland Stanford Jr. University, Palo Alto.

DISTRICT OF COLUMBIA.

J. W. Sims, Physical Director Y. M. C. A., Washington.

ILLINOIS.

George W. Ehler, Y. M. C. A., Chicago.
Philip Greiner, Instructor in Physical Culture, Northwestern University, Evanston.
E. L. Hayford, M.D., Physical Director Madison Street Y. M. C. A., Chicago.
A. Alonzo Stagg, A.B., Director of Physical Culture, University of Chicago, Chicago.

INDIANA.

Mrs. Harriet Colburn Saunderson, Director of Women's Gymnasium, Indiana University, Bloomington.

LOUISIANA.

Clara G. Baer, Instructor in Gymnasium, Tulane University, New Orleans.

MAINE.

Frank N. Whittier, A.M., M.D., Director of Gymnasium, Bowdoin College, Brunswick.

MARYLAND.

Gulli J. Oberg, Instructor in Gymnastics, Woman's College of Baltimore, Baltimore.
H. G. Watson, Director of Gymnasium for Men, Western Maryland College, Westminster.

MASSACHUSETTS.

- Thomas G. Adams, A.B., Director of Gymnasium, Williams College, Williamstown.
 Eliza S. Clark, Instructor in Physical Culture, Mt. Holyoke College, South Hadley.
 Frank W. Durkee, A.M., Director of Gymnasium, Tufts College, Tufts College.
 C. W. Emerson, M.D., Boston.
 Claes J. Enebuske, Boston Normal School of Gymnasium, Boston.
 Luther Gulick, M.D., Director Training School of Y. M. C. A., Springfield.
 Lucile E. Hall, Director in Gymnasium, Wellesley College, Wellesley.
 Edward Hitchcock, A.M., M.D., Professor of Physical Education, Amherst College, Amherst.
 Miss Amy M. Homans, Director Boston Normal School Gymnasium, Boston.
 Major Hobart Moore, Boston School Regiment, Boston.
 Hartvig Nissen, Instructor in Physical Training, Public Schools, Boston.
 Baron Nils Posse, Director Posse Gymnasium, Boston.

MISSOURI.

- Carl Betz, Director of Physical Training, Public Schools, Kansas City.
 Henry Braun, President Vorort National Turnerbund, St. Louis.
 August H. Muegge, Instructor in Gymnastics, Washington University, St. Louis.
 W. T. Porter, M.D., Investigator of Physical Condition of School Children, St. Louis.

NEW JERSEY.

- Isaac J. Turner, Superintendent of Gymnasium, College of New Jersey, Princeton.

NEW YORK.

- Harriet I. Ballintine, Director of Gymnasium, Vassar College, Poughkeepsie.

- Edward Hitchcock, Jr., A.M., M.D., Director of Gymnasium, Cornell University, Ithaca.
 Heinrich Metzner, Principal of School of the New York Turnverein, New York.
 J. Gardner Smith, M.D., Physical Director Harlem Branch Y. M. C. A., New York.
 Hamilton D. Wey, M.D., New York State Reformatory, Elmira.

OHIO.

- Mary E. Carr, Ph.M., Mt. Union College, Alliance.
 Anton Leibold, Superintendent Physical Culture, Public Schools, Columbus.
 Mrs. Francis W. Leiter, National Superintendent Physical Culture W. C. T. U., Mansfield.
 Prof. Henry C. Myers, University of Wooster, Wooster.

PENNSYLVANIA.

- Blanche Best, Allegheny College, Meadville.
 Winfield S. Hall, M.S., M.D., Haverford College, Haverford College.
 Prof. Anna D. McNair, A.B., Bryn Mawr College, Bryn Mawr.
 Oscar Scheer, Western University of Pennsylvania, Allegheny.
 Prof. J. K. Shell, M.D., Swarthmore College, Swarthmore.
 Prof. George D. Stahley, A.M., M.D., Pennsylvania College, Gettysburg.

TENNESSEE.

- Prof. J. T. Gwathmey, Vanderbilt University, Nashville.

VIRGINIA.

- W. A. Lambeth, University of Virginia, Charlottesville.
 Ed. M. Schaeffer, M.D., Washington and Lee University, Lexington.

PHYSICAL EDUCATION.

OPENING ADDRESS OF THE CHAIRMAN,

DR. EDWARD M. HARTWELL, DIRECTOR OF PHYSICAL TRAINING, PUBLIC
SCHOOLS, BOSTON, MASS.

DESPITE the printed announcement of an address, it is not my intention to make any extended remarks on this occasion, which marks the formal opening of the section on physical training, as our programme, which is a full one, has been arranged with a view to giving appropriate prominence to addresses and papers from eminent European workers in the field of physical education. It is manifestly fitting, however, that I should call your attention to the significant and representative character of this conference, and that I should attempt to express the grateful appreciation felt by the promoters of this congress on account of the hearty and generous manner in which our requests for contributions from abroad have been met.

Thanks to the coöperation of many distinguished collaborators on the other side of the Atlantic (some of whom, I am happy to say, are to grace our meetings by their presence), our programme is much more varied and representative than any hitherto presented in this country to an audience specially gathered to consider topics pertaining to the physical side of education. We may well congratulate ourselves on securing such a variety of papers from Canadian, English, Danish, German, Italian, and Swedish, as well as American writers, for consideration at this time. So far as I am aware, this conference is more broadly and truly international in its character than any meeting which has yet been held, on either side of the ocean, to discuss the historical, theoretical, and practical aspects of physical training. May it have many and illustrious successors!

To those of us who have studied and labored in various parts of the country to promote the recognition and serious consideration of the just claims of physical training, the organization of this section has an especial significance. It marks, we hope, the opening of a new chapter in the history of physical training in America. We have watched and mayhap promoted the expanding and diversified interest in athletics and gymnastics which has developed since the close of the war, and especially during the last ten years, but we have waited in vain hitherto for the cordial recognition and substantial help of the leading educational association of America, the National Educational Association. But now, for the first time in its

history, I believe, the National Educational Association has a section on physical training, and this is its first meeting.

Is it too much to hope that the meetings in this hall and the publication of this congress shall arrest and awaken the attention of school superintendents, school boards, and the trustees of secondary schools and colleges throughout the country, to the fact that physical education is more highly developed, more thoroughly and effectively organized, more intelligently and generously supported in most of the leading countries of Europe, than they have ever dreamed it could be? It may be folly to expect the immediate or brilliant fruition of our hopes, but hope we must and shall for wide and permanent results from such gatherings as this. The teachings of science, of the best experience, favor our contention that physical training is an indispensable and effectual element toward securing the health, increasing the intelligence, and strengthening and fortifying the character of the rising generation; and in the end these teachings will prevail over apathy and ignorance.

Progress in our cause has been materially impeded by the prepossessions and prejudices of the teaching class, which, like the general public, is still largely ruled by ancient and traditional conceptions of mind and body, and has so feeble a comprehension of the new physiology and the new psychology that it is unprepared to acknowledge the just claims of physical education. Progress there has been during the past half century, but for the most part it has been sporadic, fitful, and retarded. Too often the experiments in our field of endeavor have been characterized by furor, hurry, and failure. We are still prone to rash experiment and to uncritical imitation. It is in the comparatively rude and primitive field of athletics that our greatest triumphs have been won. Our originality has been chiefly shown in the improvement of buildings and the invention of apparatus.

In the field of superior education, the interest of faculties and trustees in physical training is most usually manifested by costly offerings of buildings or other plant to the unappeasable "animal spirits" of their students and younger alumni. In the field of elementary education, though cheapness is a *sine qua non*, we have succeeded in initiating a number of tentative schemes, a few of which are decidedly promising. In the professional training of the teaching class, bodily training is commonly considered superfluous; and it is only here and there that public normal schools have taken any measures to provide for it. A large proportion of those who are rushing forward to fill the rôle of apostles and teachers of physical education are self-educated or insufficiently trained.

Since physical training, on its theoretical side, belongs to a class of questions that fascinate doctrinaires and dabblers, it has suffered much at the hands of its vociferous friends. Agitation, discussion, crude and short-lived experiment, have been the dominant factors in the growth of

the American physical education movement hitherto. We cannot pass to the stage of constructive development, unless respect for experience, accurate knowledge, clear ideas, definite aims, thorough training, and the capacity for sustained effort shall become much more general within our ranks and among our allies than is yet the case.

But our prospect is not wholly dark. I am constrained to believe that there are gleams of promise in the sky. It is a significant and encouraging fact, that the question of bodily training is like Banquo's ghost, and will not down. In one form or another it rises and shall rise before every generation of civilized men. For us and our successors it has assumed portentous proportions, by reason of the untoward influences of city life upon the rising generation. Never before have the teachings of medical science been so clear and authoritative as they are to-day regarding the necessity and the means of securing and conserving the health of the student class. Physiology and psychology have been revolutionized within sixty years, and the critics of our educational aims and methods are beginning to use the weapons thus furnished to their hands. The existing systems of physical education and "culture" are largely empirical in their nature; but the time is at hand when they shall be subjected to the scrutiny and tests of disinterested scientists, and shall have judgment passed upon them by men who are able to distinguish between claims and proof, between shadow and substance. Our present fashion of lauding apparatus and of multiplying gymnasia, club-houses, and grounds is, after all, somewhat of a blessing in disguise, as it tends to force the question as to the real purpose of such appliances and the best means of securing their proper use.

That our educational authorities as a class shall continue much longer both deaf and blind to the plain teachings of science and experience as to the nature, scope, and legitimate results of physical education, seems improbable. To my mind, the most hopeful and distinctive characteristic of the present diversified and expanding interest in physical training is found in the growing conviction that trained intelligence must be employed to supplement and reënforce enlightened enthusiasm, and in the evident desire of a few benefactors and governors of educational foundations to provide ways and means for developing and seconding such intelligence. In various quarters, including two of our leading universities, attempts are in progress to embody that conviction and to realize that desire. These attempts, and such meetings as this, betoken the dawning of a new day. Let us gird ourselves and go forth to meet it!

SOME UNSOLVED PROBLEMS IN PHYSICAL EDUCATION.

BY T. D. WOOD, M.D., PROFESSOR OF HYGIENE AND PHYSICAL TRAINING,
LELAND STANFORD UNIVERSITY, CALIFORNIA.

[ABSTRACT.]

THE great need in physical education to-day is the scientific spirit—the spirit which inspires the student to seek for truth and for its useful application ; the spirit of generosity toward all, and of mutual helpfulness among those engaged in the same or similar lines of work ; the spirit which precludes petty personal competition or jealous rivalry among those who are working for other than selfish ambition or mercenary ends.

There is to-day, in an embryonic and crude form, a science of physical education ; and for the sake of the honorable future, *the idea of the science* should exist first in the minds of the profession, and then in minds of the laity. The science of physical education should take the place of the so-called systems of physical training. We can conceive of a system or series of definite exercises, arranged to produce a desired effect upon a given person, or upon a class of persons ; but the only adequate name for a department of human knowledge and of research is that of a science.

Science is classified knowledge ; but for the most part the words “ unclassified ignorance ” represent the present condition of our new science—physical education. Now, the intelligent understanding of the problems which need solution is the first step in the opening out of any new field of study. Here is a field of study as broad as human thought, involving questions important, far-reaching, and impossible of immediate settlement.

The term physical education is so misleading, and even misrepresented, that we look for a name which shall represent fairly the real idea of the science. What is physical education ? This is one of the unsolved problems. Many people answer : “ The training and development of the physical ” ; and they consider that the aim and end may be found in anthropometric apparatus, physical measurements, athletic contests and exhibitions, with graphic representations of measurements and of averages.

Now these things are very well in their places, but if our science is to be worthy of the best efforts of men and women, and of the respect and recognition of the educational world, physical education must have an aim as broad as education itself, and as noble and inspiring as human life. The great thought in physical education is not the education of the physical nature, but the relation of physical training to complete education, and then the effort to make the physical contribute its full share to the life of the individual, in environment, training, and culture.

The aim must not be primarily utilitarian, simply physical betterment, strength, skill, or fine proportions. It must be high and comprehensive.

The ethical teacher tells us that the human ideal, the first and chief end of life, should be self-realization, the attainment of the best that there is in the possibilities, powers, and faculties of the individual. This guiding thought, this one ultimate end, brings into harmony all departments of human training. This ideal gives us the basis of our science, and suggests many questions of fundamental importance.

For example, What is the relation, more exactly than we know yet, of voluntary muscular activity to the activity and training of motor brain centers, and through these to general development? Again, what are the laws which indicate the order and method of growth and development in all the tissues, organs, and activities in man? In such study as this, thousands of individuals must be carefully observed and accurately tested, and the various laws determined by induction, tabulation, charting, and the various methods of statistical study, which has come to be a distinct specialty. Then types are to be brought out in strong relief, not to mislead but to assist us. Independently of all personal bias or prejudice these questions must be settled, through the scientific study of man himself. Here are the fields for the biologist, the physiologist, the psychologist, the physical and the general educator. These fields have been too much separated. They should overlap with generous margins, so that each may verify the results of the others, and that there may be unanimity among all. At present our exact knowledge with reference to these most important problems is very meager, especially in the field of physiological research.

Dr. George W. Fitz has well brought out this thought in his excellent paper in the September number of *Harvard Graduates' Magazine*: "In the absence of exact physiological knowledge, various more or less reasonable and far-reaching hypotheses have been assumed, and elaborate theories and systems of training based thereon. The advent of new systems, and discussions provoked by them, have made clear to physiologists the ignorance in relation to some essential facts."

The rational study of the science of physical education will stimulate the efforts of investigators in many fields, and make plain the vital connection between facts hitherto unrelated even in the scientific mind. The work of the physical educator lies much in the field of the physical, but always from the standpoint of the ideal man, in whom the physical is the essential condition of his existence and activity. "It is seen," says Dr. G. Stanley Hall, "that the most perfect physical development involves the choicest knowledge, the best morals and religion." Here "best physical development" is related not to the material brute body, but to the possible admirable man or woman.

What forms of exercise will best develop, or assist in development of, strength, speed, skill, self-control, accuracy, grace, endurance, automatism, courage, moral fiber, mental power, will power, character? The

question of movement and the precise effect of each movement upon the human organism is to be determined by exact laboratory method.

We are glad to know of the investigators who are working upon these problems. We rejoice at the establishment of such workshops as the laboratory in the Lawrence Scientific School of Harvard University, designed for the experimental study of the physiology of exercise. Several new and important pieces of apparatus testify to the early success in this special laboratory. May such institutions be multiplied !

The field of deformity, abnormality, and disease is of great importance for the physical educator, because the conditions named exist in slighter form and complicate the problem of many lives with which the teacher has to deal.

What I have given you will serve to suggest the scientific basis of physical education. Here we must have definite knowledge. Whatever individual investigators have contributed to our scanty fund of knowledge we recognize with gratitude. The history of physical education among the different nations offers us much of great value.

These two thoughts, then, let me emphasize :

First, That there is a science of physical education, based, with the other human sciences, upon a philosophy of human life. This science presents problems which are at once most interesting, important, and difficult, whose answers must form part of the foundation of all education.

Second, That the ever-present, interesting, important, and difficult problem in physical, as in all education, is the individual living human being.

TRAINING OF THE HUMAN BODY.

BY DR. ANGELO MOSSO, PROFESSOR OF PHYSIOLOGY, UNIVERSITY OF
TURIN, ITALY.

MANY people, even so-called experts, think that a physical exercise, to be of use, must be executed with great energy and velocity. Imbued with a military spirit, they ask for exercises which consist of jerky motions, strong and violent grips and leaps. According to military judgment, a sudden motion is preferable to a slow one, because it is apt to be a decisive action ; but the characteristic step of a Prussian soldier and the manner of his handling the gun are not admired by either physiologist or artist ; they are entirely unsuitable for woman's gymnastics.

The activity of the muscles consists in their contraction caused by a chemical process. The chemical action is, however, useful also to the muscle itself. We are reminded of the old usage of the "cupper," who asked his patient to hold his instrument case and turn it in his hands, so

that the blood should flow better ; and we see from this that a very gentle muscular activity suffices to accelerate the flow of blood.

Even without contraction of the muscle we may make it stronger and more massive by means of massage. Concerning this phenomenon, important investigations have been made which prove unquestionably that gymnastics owe their greatest usefulness to the fact that the muscles in their activity "knead" themselves, and that light motion aids the constant flow of lymph and blood better than strong and sudden motion.

In the gymnastic exercises used at present, the tests of strength nearly always consist in lifting the weight of the body by means of arms and legs. Many believe that in order to increase muscular strength great feats are necessary. This is an error. I believe that muscular contractions of short duration, involving less than one-tenth of the body's weight, are far more effective in strengthening and enlarging the muscles. Such movements may be made with dumb-bells or clubs. Experiments proved that girls between eight and thirteen years of age doubled and trebled the strength of their arms in fourteen days. I do not believe that the efforts of exercising on the horizontal ladder and bars can have a similar result, because the muscles, in lifting the whole weight of the body, work less under physiological conditions.

It is remarkable, also, that slow physical exercises not only increase the strength of the muscles, but make them more economical in their performances—that is to say, decrease secretion by means of respiratory action, hence decrease the amount of nourishment required. Female gymnastics never aim at extraordinary performances of strength ; they are intended to facilitate mobility and gracefulness.

Instead of given instructions, concerning every single movement, a series of movements should be practiced with a physiological purpose. How hard it is for mothers to teach their daughters to walk gracefully ! It is a complicated study to learn the combination of movements necessary for the girls to know how to carry themselves well.

It is an error of gymnastic teachers to apply the same method and the same apparatus for both sexes. To women, the muscles used in respiration and those of the abdomen are much more important than for men. Those are terrible moments in which the contractive power of these muscles is so feeble that the labor in giving birth is prolonged, and may even cause death. German gymnastics, invented for soldiers, have not taken woman into consideration, and have done nothing for the development of the muscles of the diaphragm and the abdomen, although a long line of exercises for these purposes lies near at hand and seems absolutely necessary.

Moreover, the present method of gymnastics does not seem to be favorable to the training of soldiers for the field. The Swiss *Monthly for Army Officers*, of November, 1892, contains an instructive report : "I

recently commanded forty-six teachers as recruits. During the first two or three weeks this teachers' section, which exercised gymnastics, was the best in the company; but soon this section was overtaken by others, whose steps became longer and faster, whose march became more enduring; they bore the burden of arms and baggage more easily, and soon the teachers' section was the weakest of all in the company, and the one which could not stand the hardships of a prolonged march. This is explained by the fact that these teachers practiced more military gymnastics and less mechanical military drill."

We must not be pedantic and insist upon the same programme for all exercises; it would lower the self-activity of the pupil. Gymnastic exercises should have a physiological aim. If the aim in view is plain, much more liberty may be granted.

German gymnastics are tedious; and when I see how complicated and difficult are the representations of the easiest and simplest performances of life, I cannot help remembering Goethe's irony with which he makes Mephistopheles instruct the student.

For reasons previously mentioned, instruction in gymnastics should be simplified, and games be introduced into the schools. Some "*Freiübungen*" that are now prescribed in schools I deem not only useless but decidedly dangerous. Among these I class the clapping together of the feet, which promotes the growth of flat feet. A beautiful foot should always show a semicircle between the heel and the beginning of the toes. The narrower the bridge is, between heel and ball, the more perfect is the foot. We physicians judge the arching of the foot from a person's walk. If when walking he throws his feet a little forward he is apt to be flat-footed. This form of the feet represents a fault which in military service may prove disastrous, because on the inner part of the sole main arteries and nerves terminate. Hence flat-footed soldiers cannot march well.

Another mistake of gymnastics for women is that no regard is had for strengthening the muscles of the organs of respiration. The ancients knew better. Orbasius devotes two chapters of his work to breathing-gymnastics, which were then called *apotherapie*. He prescribes holding the breath, and loosening the muscles of the abdomen by strong contraction of those of the chest. This should alternate with an opposite movement, etc.

Our present idea of beauty is different from that of the Greeks. To-day we still consider qualities as characteristic of female beauty which owe their value to prejudices of middle-age æsthetics. I believe Schadow was the first who pointed to the fact that the Venus of Medici had enormously long feet, and that the chests of Greek statues of women were larger than those of women of our time. The Venus of Milo must have been a woman of gigantic strength, if we consider the size and structure of her limbs. Her muscles show a character which reminds us of the distinguished

Polyklet's statue of an athlete. The Venus of Knidos, in the Vatican collection, also displays masculine physical structure.

There are tender ladies and vain mothers who fear gymnastic exercises because they develop the arms too much ; but a uniformly cylindric arm is not beautiful ; it may please some, but never anyone who is educated in art forms. Muscular action makes the fat disappear somewhat, and then through the skin the well-formed muscle may be noticed, for they are not relaxed entirely even in repose. The well-formed, full shoulders and the majestic gait of the women in the Albanian and Sabinian mountains are thought incomparable, and some people think that these women owe their beauty to the ease with which they carry light weights, or hold their hands on their heads.

If we wish to learn the pure type of Roman women, it will not suffice to look at the few excellent forms one meets in the streets of Rome ; we must ascend the heights of the Apenninian mountains and visit the villages where artists get their most beautiful models. These places resemble eagles' eyries on desolate mountain peaks. The people lead a very laborious life. The women climb daily up and down those steep mountain sides, carrying water in crocks on their heads, and like queens they walk to their huts. Undoubtedly this light daily exercise in pure air and the shining sunlight has facilitated the development of rare bodily excellences.

It is an exaggeration to say that the ancient Romans had received their æsthetic sense of beauty from the Greeks. They always valued physical beauty. Without this feeling the Scipios would not have caused to be placed on the tomb of Cornelius Lucius Barbatus (300 B.C.) the Saturnian epitaph : " His bodily form was similar to his virtue : Perfect." How the times have changed ! To-day we dare not tell a woman that her physical forms are as perfect as her virtue.

PSYCHOLOGICAL ASPECT OF EXERCISES WITH AND WITHOUT APPARATUS.

BY G. W. FITZ, M.D., INSTRUCTOR IN PHYSIOLOGY AND HYGIENE,
HARVARD UNIVERSITY, CAMBRIDGE, MASS.

THE many conflicting theories and assumptions in discussions on physical education have discouraged most of us, and made the task of reconciling them, or even sifting out the good, seemingly hopeless. In our study of these problems we are forced, by lack of evidence to the contrary, to recognize the bases of many comprehensive theories to be *a priori*, and valueless as working hypotheses. We must go deeper, must search out the fundamental phenomena and conditions. In this field, where so little is definitely known, one must be extremely cautious in making positive

statements. In what follows, please interpret all that is stated positively to be questions which I wish to present for your discussion.

It makes little difference in the general or local hygienic results whether one takes an hour of routine gymnastics, involving all the muscles of the body, and without variation from year's end to year's end, or takes an equal amount of exercise which constantly presents new coördinative problems; yet the development of power would be very different. The hygienic and educative results are so independent that I shall omit all mention of the former and limit myself purely to the latter.

For years the feeling has prevailed that the nerve centers take a large part in so-called muscular activity, but only recently has it been experimentally demonstrated. The evidence now seems to justify the belief that it is the actual fatigue of the nerve cells which limits muscular power; that the muscle is not exhausted, even when it can be made to contract voluntarily no longer. Hodges' brilliant work, showing the profound changes in structure resulting from motor nerve cell activity, is of the utmost value to us, for it suggests the extreme power of adaptation possessed by the nerve cell, and probably the power to change quickly its way of reacting, thus demonstrating the physical basis of growth in skill.

When a movement is made toward one's eye, or a particle of dust is blown into it, the eyelid closes quickly; and if the time interval between the stimulus and reaction is measured, it will be found to be a small fraction of a second. This is a type of a large class of movements which have been called reflex, because apparently the sensory stimulus is immediately reflected to the muscle, causing a contraction. The movements which are the result of such reflex actions always follow the stimuli after a short interval, and usually so as to protect the part stimulated. If the hand is touched by a hot iron, it is snatched away from the iron even before we are conscious of being burned. This intelligent control of the muscles is not the result of brain action, and in fact takes place before the brain knows what has happened; certainly before it could either help or hinder the movement. The movement follows the stimulus invariably; it is fatal, it does itself. The nervous stimulus passes over a certain path called the reflex arc; beginning in the peripheral sense organ, it passes inward to the sensory nerve cells in the cord, then to selected motor nerve cells, and out to the corresponding muscles. There is a clear choice between many possible movements, and that one is selected which will best protect the individual.

When a child sees a bright ball and reaches out for it, we have almost an identical process, only now the reaction to the stimulus is slower, and we say the child wills to pick up the ball. Here certain brain-cells are used in addition to those of the cord, and the child is conscious of the ball and desires to possess it. As such movements are studied, it is seen that they are fatal, that the perception of the ball brings about the desire

and the attempt at possession. The willing is here of slight importance. The act is reflex, but higher and more complicated in character than the reflexes of the cord, and slower in time.

Now, practically all of our physical activity falls under this type of reflex action. Walking is reflex, the sensory stimuli coming from the soles of the feet and the eyes; the walking does itself. So also in eating and manual work of all kinds. We have the sensory stimuli acting as guides to the motor responses, and all unconsciously. The curious part is that we can react best when we are unconscious, for as soon as we become conscious we react less accurately and more slowly.

The small boy who throws a snowball at a passer-by is perfectly unconscious of the ball, of his hands, and of the dozens of muscles he is about to use, but he is vividly conscious of his victim—his whole attention is upon the target. He does not estimate the distance and the necessary elevation to carry the ball, nor the force to get it there; he simply makes a vague, violent effort, and the snowball rises in the air, falls in a graceful curve, and hits squarely. In the first place, the boy has a reflex desire to throw the snowball, which all the policemen in the neighborhood cannot inhibit; secondly, a reflex control of all the muscles, which makes them work together with that perfect harmony that insures success, allowing for force and elevation so as to overcome the distance, and perhaps also allowing for the wind, and movement of the target. Of all of this, our small boy is totally unconscious.

Analysis of other acts will show that they are made in response to sensory stimuli, and that we are unconscious of the means, being conscious solely of the ends sought; all else is done for us, so far as we are consciously concerned. We know, moreover, that this is true throughout the animal kingdom, and doubtless has been true in part through the ages of development. We not only do things now in this way, and have always done them in this way, but we possess nerves and muscles developed by this plan of interaction; hence our conclusion must be that the mutual work is thus best done—that it is the natural way.

We find that our ordinary activities are stimulated by our perceptions of external conditions; that our plan of procedure is dependent upon our interpretation of those conditions, and a stimulation of just the right muscles to accomplish the result. During this time we are intent upon the end to be reached, the target to be hit, the book to be lifted, the car to be stopped, etc.; this seems to be the most important factor, for our skill is directly proportional to our success in this concentration. What do we get from this besides clear judgments of size, distance, etc.? It seems that these are essential factors for our motor responses, and that they start, reflexly, the whole complicated train of accurate motor response; thus they act as guides of the responses as well as stimuli. It is this function which is of greatest importance to us as physical trainers.

Apparatus work presents these conditions fully and completely. This is palpably true in all heavy work, but is still true in work with dumbbells, Indian clubs, wands, etc. We have the sensory stimuli appearing more or less strongly, acting as guides, and controlling the motor impulses. As the Indian club swings about the head it tends to move uniformly and in a true curve; the hand, feeling this, is guided thereby. Consciousness is centered in the club, and there is no inhibitory consciousness of the arms and their muscles. In case of heavy work, such as pitching hay, this guidance is most perfect, unifying the whole effort of the body, and forcing the workman into beautiful attitudes. Is not the grace of the gondolier due to the same perfect interaction of perception and motor response? Give the awkward boy something to do with his hands, and he loses his self-consciousness and awkwardness, for the reflex arcs are occupied, and the motor impulses are guided naturally; his consciousness is projected into the thing to be done, and all goes easily. It is interesting to note that the games which have held the activities of youth, such as football, baseball, handball, cricket, and a thousand others, bring into play the higher reflex processes, involving the perception and interpretation of external physical conditions, and the quick, appropriate, motor responses.

Apparatus work may be defined as work which involves reflex stimulation and control of motor activity by sensory stimuli.

Free work is, conversely, such work as does not involve reflex stimulation and control of the motor activities by sensory stimuli.

Let us now consider the problem presented in free exercises. The so-called order movements for the arms given by the Swedes and the free-arm exercises of the Germans are typical examples. The exercises of the trunk and legs belong properly to the class of apparatus movements, for here we have a distinct guiding by sensory impulses. If the order is given to bring the arms to a horizontal position outward at the sides, we have an entirely different chain of events from that which we have discussed. Here we have a stimulus to the ear, but one that has no direct natural relation to motor activity; it only gives rise to a motor response through the complicated process of calling up a concept of the movement demanded. The consciousness is immediately introspective, becoming fixed on the movement and on the arm itself; if on the individual muscle, so much the worse. Naturally the accuracy of the movement will depend on the vividness and accuracy of the remembered concept, for it must duplicate a previous movement. Such movements are difficult, but where is the difficulty? The small boy who has had no so-called systematic training is able to hit a fly on the wall in such a position in relation to his shoulder, and to do it instantly; yet when you order him to execute the aforesaid movement, he gets his hand perhaps four or five inches too high, or too low, or too far forward, or too far back, usually upward and backward.

His difficulty is not that he cannot do the movement, for his nerves and muscles are all right, but he has only a vague concept of this conventional position in relation to the sense of position of his arm. The sense of position is in itself good, for he must have known just where his arm started from to hit the fly. We are forced to consider the concept as at fault. In order to do it exactly, he must be able to perceive the identity of his arm sideward-horizontal position concept, and the arm position sense, and furthermore must know when he is approaching it. The fact that it is difficult for him shows that there has been little call for it in his natural activity, or in the activity of the race. The demand is not a natural one, the conditions are unnatural. The question arises, Does it require education because it is undeveloped? Is it not shown to be of slight value by the fact that it has not been developed? But aside from this consideration, what is its value? Necessarily such concepts are of a few arbitrarily chosen positions, the positions having no greater value than an equal number selected at random from an infinite number of oblique positions. It is difficult to conceive of any real value from the training of such concepts, except to a soldier; while the soldier illustrates the decided disadvantages attached, for his angularity and stiffness show the tendency gained for the nervous discharges to go in the well-grooved paths resulting from the drill, and so thus prejudice the movements to the directions exercised. Fortunately, training of this sort, while it does little good educationally, can result in but slight harm, for the actual use of the muscles and nerve cells in these exercises amounts to so small a part of the total day's hap-hazard activity that its influence may be ignored. Only when systematic training goes beyond the daily ordinary experience in amount or range, does it come in as marked factor in development. In all series exercises made up of sets of simple movements there can be only slight gain, for the series *per se* have no intrinsic value, except as in piano practice, typewriting, etc., where one recognizes a distinct utilitarian end.

Dr. Wey, of the Elmira Reformatory, has made a significant observation in regard to arousing enthusiasm in exercises. The free exercises were tried, but the class could not be kept interested; they wanted to feel they were doing something. When given apparatus work they became interested, and showed good results from the training. Is this not due to the fundamental psychological difference existing between the two—one being a natural, concrete set of conditions, while the other is abstract and unnatural?

When we consider physical training in its educational aspect, we must claim manual training as a part of our work, for here we have preëminently all the conditions of apparatus work—the clear perception of external conditions of material and tools, and the motor responses guided by such perceptions.

I believe fully that it will not be many years before much of so-called gymnastic teaching will be a thing of the past, and in its place we shall have a well-ordered series of games and occupations, which will furnish full free play to all the physical activities, giving to the child the opportunity for his true physical upbuilding. Such training, or rather such opportunity, should begin in the cradle, and continue till the physical activities are in full power and the body has reached its complete development.

Reference to movements that are primarily aids to expression has been purposely omitted, and many points naturally related to the foregoing have been avoided, that the main question might be left clear for discussion.

PHYSICAL EXERCISES FOR SCHOOL PURPOSES—HOW SELECTED AND GRADED.

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IN discussing the subject of physical exercises for schools, we must remember that we are dealing with a very large class of our population; that we are dealing with a class which is under better control and discipline than any other class of individuals except our military forces; that we have to deal with these children through a board which in many towns is slow to believe in the necessity of and expenditure for physical training. To accomplish much, we must urge progressive measures through the board of health and otherwise for the betterment of the bodily training of public-school children.

Need.—The need of such training is apparent both as a hygienic and a pedagogic measure. Scholars are taught words and facts and figures; their cerebral centers are engorged with blood at the expense of their bodily growth and development. Teachers wonder why the little mind does not show more energy, why it does not grasp and retain and digest all this mental food. The fact is forgotten that the voluntary muscles contain perhaps one-fourth of the blood in the body, and that through their activity a large proportion of the potential energy of the body is changed into work and heat.

As a pedagogical measure, physical exercise, properly directed, is a necessary factor. One need but observe the standing or sitting position of public-school children, their awkward gait, difficult breathing when singing or speaking, to appreciate a need of training.

Kindergarten and manual training to a limited extent affect both muscles and mind, but the need to-day is a definite system of physical

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training which by graded and more or less intricate exercises shall not merely develop muscles but educate the mind to control and coördinate the whole voluntary muscular system. For, as Dr. Keating says in his "Cyclopedia of Diseases of Children": "Every movement of the body depends as much upon the proper coördination of the muscles for its accuracy, grace, and force, as upon the strength of their contraction." The need of physical training as a hygienic measure is more imperative. During the past two years I have examined upward of eight thousand public-school children. A large proportion of these children stood with abdomen protruding, shoulders and neck forward. The average expansion of the chest at the nipple, in breathing, of boys was 1.1 inches, of girls, .9 inch. The breathing was sufficient to support life, but the quantity of reserve and complemental air was very small. Very few could distinguish between diaphragmatic and costal breathing.

About ten per cent. had an apparent scoliosis. Comparatively few rachitic children were found. The step in most cases was fairly good, as the children had already been trained in marching. After eight months the chest expansion in boys was 1.9 inches, in girls was 1.8 inches; scoliosis improved in eighty per cent. of the cases. These examinations showed a most urgent need of training in the sitting and standing position, for development of muscles of trunk and upper extremities, and especially in the carriage of the body and mobility of the chest. For all these reasons, and many more, it is highly imperative that a rational system of physical training be pursued during the ages of school attendance. Such a system should meet the demands hygienic, educational, and recreative.

The practical question which now arises is as to the method and its adaptation. Shall the system be German, Swedish, or what? I say, Let the system be American, comprising the best of all known exercises. Let the special teachers be well informed upon all so-called systems and thoroughly familiar with the human body, able to examine the scholars and adapt the exercises to their needs. Too much time is spent to-day in discussing systems, and too little in the study of needs and how to meet them.

Method.—As to the method or selection of exercises, it must vary in detail according to circumstances. We must consider the condition and needs of children first. This may be done by some form of physical examination relative to the heart, the lungs, the thoracic cavity, the condition of bones of trunk and limbs, the strength and development of voluntary muscles; all of these should be considered. Measurements of height, weight, chest, abdomen, hips, arms, and other important notes should be recorded. In this way the director of this department is enabled to place the children in proper classes, and to arrange and adapt the work intelligently. On the other hand, the children are thus stimu-

lated to work for their physical improvement, and not merely to learn how to perform certain mechanical exercises with no definite end in view.

We must consider the building, the room or rooms to be used, the number of teachers and number of grades, the length of time spent in each grade, the sex, and the apparatus available. Next we must consider the mental capabilities of the children, and suit the exercises to the various grades from this standpoint also. The system must be progressive, from the A B C to the graduates who enter college or business. In this progression, however, fun and recreation should be prevalent. The three great needs—hygiene, education, and recreation—should underlie the whole system. There are two other very practical considerations: First, the coöperation of the teachers; and second, the necessary financial outlay. This latter need not be very extensive, although it should be sufficient to secure the best talent and means for the best result. One competent man, with the coöperation of regular teachers, might have the oversight of from five thousand to twenty thousand pupils, or with special assistants he might direct an almost unlimited work. I have been agreeably surprised to see the unanimous and hearty way in which the principals and teachers have supported and aided in the exercises of physical training in the schools of New York City.

With these facts before us, we proceed to a more definite outline of exercises. It is not the province of this paper to discuss school furniture, but it is of course important that desks and seats be adjustable, so that the child can touch his feet to the floor, for instance, and so that physical instruction can be carried out. Exercises permissible in school may be classified as follows:

Training in sitting position; training in standing position;

Breathing exercises, upper thoracic, lower thoracic, diaphragmatic;

Marching, walking, running, hopping, skipping, jumping;

Calisthenic exercises (innumerable) without apparatus;

Light gymnastic exercises with apparatus—rings, dumb-bells, wands, poles, bell-bars, Indian clubs, etc.

Heavy gymnastic exercises—horse-buck, parallel bars, horizontal bar, vaulting, jumping, ladder, rings, etc.

Games, indoors and out.—Innumerable games, especially in spring and fall, with much of the other exercise, can and should be done out of doors.

It is not necessary to go into much detail regarding this classification, but some explanation may be profitable. Assuming that we have a room well ventilated, with two hundred cubic feet of air space for each individual, and the most modern adjustable desks and seats, there are innumerable groups of enjoyable exercises which might be done by the children, as often as every half hour at least. Motion is one of the means of rest to the growing child. He should not be restrained in one

position longer than five or ten minutes. Neither should faulty positions, tending to scoliosis and other deformities, be permitted.

Exercises in the sitting position may be alternated with risings and facings, and marchings at intervals. This rest and recreation for body and mind need not be longer than a minute or two, or perhaps five, at a time.

Standing.—Before children are taught to march they should be taught to stand in the position of the soldier. (See revised tactics, United States army.) Ask the untrained child to sit or stand erect, and you will observe the shoulders thrown backward, head tipped back, and abdomen protruded, in many if not most cases. Considerable training will be necessary to properly “set up” the child.

Perhaps the next most important point is the control of thoracic muscles, both for the health of the child and to improve his singing and speaking. He should be taught to use the upper and lower thorax and diaphragm at the same time, and each separately. These ideas and habits inculcated into the minds of children might do much to encourage dress reform, because the child could see the impossibility of sufficient chest expansion while the chest is constricted. There may result more muscular strength under restriction, but not so much elasticity and expansion of the chest.

Marching.—Many evolutions in accordance with the United States tactics will prove interesting and beneficial to scholars—an improvement in the way of school discipline that would give us better men and women, and better soldiers.

Calisthenics.—This field is almost unlimited where large, airy rooms are at command. In many schoolhouses calisthenics must be limited to such as can be done in a classroom with desks. It must be remembered, as Dr. Lincoln remarks in his article on school hygiene to Dr. Keating’s “Cyclopedia”: “Above the age of twelve years scholars begin to look down on them [referring to free exercises] as childish; and with good reason, for they lack one essential element—they do not call for exertion to overcome resistance. For better work scholars should have light dumb-bells, wands,” etc. I would note another lacking element, viz.: the recreation afforded by the fact that some apparatus is held in the hand and used in the exercise. We see this desire for apparatus before the child reaches twelve years, and in New York City five primary grades use apparatus. Calisthenic exercises may be grouped in drills, for assembly or classroom or gymnasium, occupying from one to twenty minutes. The progression proposed by Professor Ling (see Keating’s “Cyclopedia of Diseases of Children”), the grace and ease of movement as taught by Delsarte, and the recreative “rounds” of the Germans, can be made exceedingly attractive when adapted to the needs of the scholars. The United States setting-up drill, arranged to 4-4 time, has proved very interesting and attractive in assembly and classroom drill.

Light Gymnastic Exercises (with apparatus).—This affords better opportunity to grade the exercises to suit the body and mind of the child from five to twenty years of age, and to cultivate not alone muscles and strength, grace and agility, but to train the perception, memory, judgment, and almost every faculty of the mind, at the same time affording much recreation. Indian-club swinging, for instance, while simple and easy, can be made most intricate and interesting. This fact was illustrated at one of the New York school receptions, where the graduating girls gave a very creditable exhibition of club-swinging, showing grace of movement, complexity and variety of exercises. The following is a classification of graded drills in New York City schools (June, 1893) :

In the grammar departments :

First Grade (highest).—Advanced Indian-club drill No. 1.

Second Grade.—Advanced bell-bar drill No. 1.

Third Grade.—Wood dumb-bell drill No. 1.

Fourth Grade.—Bell-bar drill No. 2.

Fifth Grade.—Indian-club drill No. 2 ; or wood dumb-bell drill No. 2.

Sixth Grade.—Short-wand drill No. 1.

Seventh Grade.—Wood dumb-bell drill No. 3.

Eighth Grade.—Calisthenic dumb-bell drill No. 4 ; or free drill No. 4.

For the primary departments :

First Grade (highest).—Indian-club drill No. 3.

Second Grade.—Anvil chorus dumb-bell drill, or bell-bar drill No. 3.

Third Grade.—Short-wand drill No. 2.

Fourth Grade.—Wood dumb-bell drill No. 5.

Fifth Grade.—Military drill, and ring drill No. 1.

Sixth Grade.—Free drills Nos. 1, 2, and 3, and breathing exercises.

In the higher grades of grammar departments, where ages range from fourteen to seventeen years, especially in the male department, heavy apparatus—horse, horizontal bars, etc.—can be used to advantage. This work need not be limited to the boys' classes, though of course the work by the girls must be much simpler and easier of accomplishment. The element of resistance to exertion here satisfies an evident demand, and affords an increased amount of recreation. Here the class should work in squads under competent leaders, who set the exercises and see that they are properly carried out.

Games.—Of course the element of fun is greatest in the so-called "games." The rivalry and exertion completely change the mental condition, and recreate body and mind. These should not be carried to fatigue. Baseball, handball, basket-ball, tag, etc., can be utilized in a most profitable way ; and I believe games will hold a much more prominent place in the future than they do to-day in school, association, and college gymnasiums.

How Taught?—In answer to this question we would say, By the class teacher, supervised by a competent director. This plan has been followed in New York for two years with good results. The director of physical training should visit each school at intervals (perhaps once each week), reviewing the past work and setting some new exercise for each class. The exercise of each grade should be printed, illustrated by photographs, and placed in the hands of the teachers. The assembly work and marching orders will be about the same for all classes, but the grade work, of course, will vary in progression. When the exercises are well understood by the scholars, the piano or other music increases the interest and recreation of the work, and becomes the only leader needed for the class. The exercises, taught by the class teacher, will prove mutually beneficial.

In closing, let me urge the necessity of more recreation in our schools, more study of this branch of education, and more hearty coöperation by all interested in this common cause.

THE REGULATION OF ATHLETIC SPORTS IN COLLEGES.

BY R. TAIT MCKENZIE, B.A., M.D., DIRECTOR OF MCGILL UNIVERSITY GYMNASIUM, MONTREAL.

EVERY department in college work has its honor course in which results are decided by competition. But there is always an ordinary course wherein steady work, not peculiar excellence, is required. In the department of physical culture, however, in many colleges all work is competitive. Thus in "athletics" there is no "ordinary course." Freshmen in every way unprepared encounter the full strain of a hard game, such as football, like raw recruits rushing into battle before they have learned the first rudiments of drill; in fact, the value of drill is often entirely overlooked.

"It is the intent of gymnastics," says Jahn, "to restore to our education that completeness which has been lost, to add bodily training to one-sided mental culture, and to balance over-refinement by manliness regained." Athletic sports, supplying as they do nourishment to the physical wants of our college men, may by regulation minister to that "completeness" which the great German reformer had in view. Certainly athletics in some form will continue as a college institution so long as a young man's glory is in his strength. He will devise some method of measuring it with his fellows, and of displaying his prowess, even if it be at the expense of the unfortunate policeman or the innocent street lamp. He must have some safety-valve to let off his surplus vital force.

Froebel, in designing the kindergarten, instead of ignoring this "play

instinct," made gymnastic games a part of his system, thus bringing the most constant and prominent characteristic of the child's nature strongly to bear on his education and development.

Hap-hazard as their regulation is, athletic sports have had a powerful influence in molding the lives of men. Wellington's historical remark: "All the victories of my life were fought years before on the football fields in England," is as true to-day as it was then.

Our modern college education is sometimes a process of over-refinement; the intellectual is so emphasized that men are made unfit for the rough-and-tumble fight of life by their lack of physical courage. The struggle is distasteful to them. "The need of the pre-scientific age was knowledge and refinement; the need of our age is health and sanity, cool heads and good digestion." On the campus a man is disciplined in quick decision and prompt action, and learns resolute pluck when opposing forces are greater than his own. The timid boy, needing such discipline most, gets it least.

Let us be glad, with Wadsworth, that "the spirit of athletics is abroad among our young men, enlarging muscles, broadening shoulders, and deepening chests. The result will be a fine race, and that paragon of animals, the noblest result of the ages, a strong man."

The Greeks as a nation cultivated athletic sports with a passionate enthusiasm. Their games were warlike, as became their social conditions and environment, but even they distinguished educational from military or athletic gymnastics. The modern city does not, for walls, need the bodies of her young men as did Sparta, but in the nineteenth century, when life is a keener struggle than ever for existence, the man with the most physical stamina will produce the most work and the best, other things being equal, just as surely as the disciplined soldier of Rome proved himself superior to the untrained barbarian in the hand-to-hand conflicts of his day.

As the hypertrophy of any muscle or set of muscles is produced at the expense of the whole body corporate, so the undue prominence of this feature of college life may become an abuse, and seriously interfere with the work of the classroom.

Those who see little if any value in athletic games say that time so spent is not only wasted but is stolen from the useful and legitimate college studies. This objection, which is heard usually from the teaching staff, certainly has foundation when a large amount of class-work has to be done in a short term. Why not settle this disagreement in the manner proposed by the little boy about to be spanked by his mother: "Don't strike; let's arbitrate"?

From the standpoint of hygiene, Professor Mosso, of the University of Turin, backed by able medical authorities, including the *Lancet*, proves that mere strength of limb tends to weaken and impoverish the body;

that great muscular strength impedes the circulation, interferes with respiration, and makes the pulse irregular. Also that the brain does not rest during exercise. Assuming his conclusions to be correct, as they doubtless are, the fact remains that college men will insist upon playing football, running, jumping, and heaving weights ; but as we are at present trying to regulate and control this Saxon characteristic and minimize its attendant dangers, his conclusions are hardly relevant, for they apply to extremes only, and in the case before us are like half-truths in evidence—more misleading than mistakes or direct falsehoods.

Physical education is becoming a department of preventive medicine at the cost of the recreative element that Herbert Spencer lays so much stress upon in his essay on that subject. If the authorized physical department does not recognize the “play instinct,” it will manifest itself as a discordant factor, opposing where it should coöperate, interfering with and detracting from the popularity of the official work. Apropos of this, a philosopher once said it was hard to understand why football should be called play when shoveling coal was considered hard work. That such is the case proves that a great deal of hard work can be disguised by the spirit of play, and if some ingenious mind were to plan intercollegiate coal-shoveling contests, it would doubtless become a new and popular sport.

In the English universities we find sports at their best, for England is the mother of athletic games, and has a large family of them. So much do boating, cricket, and football take up the time and strength of the Oxford undergraduate that Ruskin, seeing in this a waste of valuable energy, said it might mend all the roads in Oxfordshire—a most productive form of athletics. As there is little or no control exercised over such athletics, and as the open weather extends throughout nearly the whole year, outdoor sports and games almost entirely take the place of indoor gymnastic work ; in fact they leave little room for it. In America we find that his sporting proclivities have followed the Englishman, and the same love of games and admiration of physical prowess are there seen. But sport has become changed by the more stimulating climate, and has taken on some national characteristics. Everything is done under high pressure and great excitement ; and because of interested crowds and big gate-money at stake, ingenious tricks are indulged in to gain advantage in the match. Who but an American would have thought of greasing his canvas jacket for a football match ?

Athletics are, however, taken seriously in most American colleges, and are undertaken with a characteristic intenseness. There is not much fun or freedom in the life of a candidate for the university crew or the football team. A stranger is astonished at the spirit of keen competition in the athletics of American colleges. It is in danger of interfering with fair play in many intercollegiate contests. The mere winning is an inci-

dent in the game, and should not be so magnified as to become the sole object for which the game is played, that before which everything else must give way. A team which cannot win on its merits, often resorts to trickery. The motto seems to be : "Get there honestly if you can, but get there." Codes of signals are practiced behind closed gates, spies are sent to discover the enemy's tactics ; in fact, an outsider is apt to think a civil war is about to break out, instead of a friendly trial of strength between two sister institutions. This intense rivalry smothers the spirit of fair play, and leaves the game shorn of one of its greatest attractions.

The newspapers make capital of this in exaggerated paragraphs, and the annual football match assumes the appearance of a gladiatorial show. It is played before enormous crowds, on neutral grounds hired for the occasion. The question of gate-money has the first consideration in choosing the scene of action. For example, in 1893 the receipts at the Yale-Princeton football match were over \$30,000 ; about \$12,000 of this went to each club, and was used principally in training the team, paying attendants, hotel bills, and railway fares—everything, expenses included, being on a truly gigantic scale.

This money-making value of the game is dragging sport down from its true place as a recreation, and, together with the rivalry before alluded to, must tell against its best interests. But the evil does not stop here, for the smaller colleges, like small boys, try to imitate their big brothers, and so offer distinguished players large salaries to coach their football teams that they may compete with some hope of success ; and thus many of the men who become noted in college athletics have professionalism thrust upon them.

Our Canadian colleges occupy a position entirely unique. Their strong leaning toward American forms, to be expected from their social and geographical relationship, is offset by the influence of British customs, traditions, and official connection. The form and character of the sports are therefore rather more English than American. A football match is always played on the ground of one of the competing colleges ; the competitive and professional elements do not enter so much into sport there as they do further south, the visiting team being entertained as guests. The annual 'Varsity-McGill Rugby match is always followed by a complimentary dinner, and the rivalry is most friendly and good-natured.

In no college in Canada do the university authorities have any voice on the athletic boards, except as honorary members or officials of the games. But experience goes to show that some government is beneficial and even necessary ; that if left entirely in the hands of the undergraduates, without assistance from those who have been through the mill, blunders are made, time, labor, and money are wasted yearly by raw committees, and the athletic interests of the college have to bear the loss. If members of the teaching staff were also members of the athletic committees, these faults

would in part at least be remedied, as a certain official recognition would be given to athletics. They would then assist physical training very much as practical demonstrations or Saturday excursions enlarge the course in geology or botany.

A scheme for the government of the athletic interests of any college must of necessity vary in detail with the special conditions of the institution. In the first place, if games were confined to intercollegiate events, the rougher element would be excluded. Secondly, games would be played on college grounds only, and the admission be by invitation rather than by payment, so that the right audience, the friends of the players and of the college, would have the first opportunity of witnessing the game. This would empty the coffers, it is true, but college athletics would rise from the plane of a mere money-making advertisement, which these sometimes occupy, to that of the pure recreation so necessary for the welfare of the present-day student. Thirdly, as the laurel wreath at Olympia was valued not for its intrinsic worth but as a mark of distinction and souvenir of the event, so should the contestant nowadays esteem his prize, though of little money value. Other outlay being on the same scale, a small compulsory fee charged all students would easily cover the necessary expenditure. Fourthly, let the control of all the athletic interest of the college be in the hands of a committee composed somewhat as follows :

The principal or president (*ex-officio*) ; one governor, or trustee, elected annually ; one professor from each faculty, elected annually ; the director of the gymnasium ; one graduate, elected annually by the graduate society or similar organization ; the president of the athletic association, an undergraduate ; one undergraduate representative from each football or tennis club, etc., elected annually by the respective bodies at their first meeting.

There would be about twelve in all, equally divided between graduates and undergraduates. The duty of this committee would be to control the college athletic grounds, to confirm all rules and regulations of the different clubs before they became valid, to decide any inter-club disputes involving the general welfare, to insist on a medical examination before allowing men to take the risk of competing in games of strength and endurance, and to make a report at the end of the year to the governing body of the university of work done, with comments and recommendations.

Next in order of precedence would come the athletic association, the central managing undergraduate society, in which would be represented football, hockey, cricket, and tennis, each of these clubs managing its own affairs, and requiring legislation on certain questions only, such as grants of money. If a scheme like this were adopted there would be a system of athletic law courts from the individual to the club, from the club to the

association, from the association to the committee, and from the committee to the supreme court, the governing board of the college. Athletic interests would then be regulated by the men best fitted by inclination, experience, and ability, to check abuses and encourage new and better ideas, and the chaos of conflicting interests and authorities, now unfortunately too prevalent, would be replaced by the cosmos of harmony and order.

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PLAYGROUNDS.*

BY THE RIGHT HONORABLE THE EARL OF MEATH, LONDON.

FIFTY years ago the world, comparatively speaking, did not contain many large cities. It is only within the memory of living men that the great exodus has set in from the country to the town. In former ages, no doubt, the city always exercised a certain fascination over the bucolic mind; but locomotion was difficult and expensive, social custom and laws antagonistic and often almost prohibitive to migration, especially in the case of the peasant, and the city fenced itself round not only with material walls, but with prohibitive tariffs and with regulations which rendered all ingress and egress troublesome, and change of residence a painful labor rather than a pleasure. The attractions of the city, too, were not so marked as to outweigh the disadvantages attending residence within its walls. In the town work was often scarce, food dear, dirt ubiquitous, disease endemic and sometimes rampant, and life and property not infrequently less secure than in the country, which did not offer to the idle and evil-disposed so easy and rich a prey.

It was not until steam power superseded hand labor, till factories arose requiring the daily coöperation of numbers of human beings to carry on the work, till delicate machinery needing the constant attention and repair of skilled artisans came into use, till encompassing walls were razed, octroi duties and regulations either abolished or modified, locomotion made easy and inexpensive, and city life comparatively safe, healthy, and agreeable, that population began to leave the country and settle in the town, attracted by work, high wages, and the brighter and more varied aspects which life assumes in the midst of crowds. As towns improved in their sanitation, in their outer beauty and inner life, so wealth was attracted, and labor followed in the footsteps of its patron, until by degrees grew up the city as we know it, where may be found all that can make existence agreeable to the rich man, who, when he is satiated with the pleasures of the city, may retire to the country and enjoy (all the more for the contrast) the peace, the freshness, and the beauty of nature. But those masses of

human beings who have been congregated through the exigencies of commerce, of manufacture, and of wealth, cannot migrate at their will. They are bound to remain cooped up, year in, year out, within the walls and streets of the crowded city. They have been driven by hard fortune from their country homes, and like wild flowers torn by some careless hand from the meadow bank, are left to fade and die on the hard and pitiless pavement. If artificial social necessities have demanded the permanent banishment of the masses from the country, and from all that the country means to man, it is but just that society should endeavor to minimize the loss to them by bringing back to the city as much of the beauty and pleasures of nature as money and circumstances will permit.

With this view, the Metropolitan Public Gardens Association and the Kyrle Society have labored with marked success to increase the number of public open spaces, gardens, and playgrounds in the metropolis, and have lost no opportunity of fostering a public opinion within Great Britain favorable to the acquisition and maintenance by municipalities of numerous public open spaces easily accessible to the masses of the people. So successful has this propaganda been that London alone has, since the formation of the Metropolitan Public Gardens Association in 1882, increased her open spaces by one hundred and fifty-seven, containing 4,998 acres, whilst the entire number of public parks and gardens within easy reach of the inhabitants of the metropolis is two hundred and seventy-one, containing 17,876 acres, which include 6,280 acres acquired and maintained by the Corporation of the City of London.

During the same period the provincial municipalities have added largely to the open spaces under their control, but it is difficult to give an accurate statement as to their number. In the year 1883, in answer to a circular letter issued by the writer to the authorities of forty-two provincial cities and towns, it was found that they possessed an aggregate of one hundred and thirty-one open spaces, containing 12,343 acres. Since then it is probable that at least one hundred more have been added, so that we may roughly say that the cities and towns of the United Kingdom, including the metropolis, possess some five hundred open spaces, over 40,000 acres in extent. These public grounds are of course in addition to the innumerable private gardens and squares which are to be met with in almost all British towns, and which, though not open to the public, still gladden the eyes of all by the sight of nature, materially increase the number of cubic feet of pure air which each citizen may breathe, assist in the production of oxygen and the consumption of carbonic acid gas, and give pleasure and health to a large majority of the inhabitants of the towns in which they are situated. It is calculated that there are some five hundred private squares (and frontages) in London, as well as one hundred and seventy-three closed burial grounds, containing an aggregate area of about 1,500 acres.

The operations of the Metropolitan Public Gardens Association have been largely directed toward the transformation into pleasant gardens, and the throwing open to the public, of these closed burial grounds and squares; and no less than sixty-one of the former and eighteen of the latter have been thus treated by the society since its formation. The London County Council, the governing body of the metropolis outside the city, has been most energetic in furtherance of the open-space movement, and within four years has itself contributed £170,000, whilst other public bodies have subscribed £171,000, in jointly adding 418 acres to the open spaces of the capital, besides receiving three noble gifts amounting to 66 acres.

It should here be mentioned that many years before the existence of either the London County Council or of the Metropolitan Public Gardens Association, the ancient corporation, which rules over the one square mile in the heart of the metropolis known as the City of London, and whose head is the lord mayor, initiated the policy of encircling London on its outskirts with a series of large commons and open-spaces. In 1882 the corporation acquired the noble domain of Epping Forest, 5,350 acres in extent. Up to the present time the corporation has provided ten or eleven of these large open areas, amounting to 6,380 acres, at a total cost of £310,000, and is still continuing its large-hearted policy of enclosing London in a green ring, a policy which not only promotes the welfare of its own citizens, but to a far greater extent benefits the inhabitants of London at large, outside the narrow limits of the City.

There are some who are of the opinion that London possesses for the moment a sufficient number of extensive parks and gardens, and that her present need is a large increase in the small gardens and playgrounds to be found scattered amongst the more densely packed portions of her population. The ideal of the writer of this paper is that a small garden or playground, divided into two portions, one for boys and one for girls, both supplied with gymnastic apparatus and appliances for suitable games, with a certain portion roofed in in case of bad weather, and under the care and supervision of special attendants, should be opened and maintained by the municipal authority in every large city within a quarter of a mile's walk of each working or middle-class home.

As a rule in cities the large parks—and this is especially the case in the United States—are too far from the masses of the population to be of much practical benefit to them except on a Sunday; but if small playgrounds under the strict supervision of careful attendants were scattered all over the town, work-people would be able to send their children to them, even for a short time, between, before, and after school hours, confident that they would be in safety and well looked after. Such playgrounds would seem to be more needed in America than in Great Britain, inasmuch as almost all British schools have playgrounds attached to

them, which, as far as the experience of the writer goes, is not usually the case with those on this side of the Atlantic. Public playgrounds may have been constructed in the more crowded portions of American cities since my visit in 1889, when, as chairman of the Parks Committee of the London County Council, I drew up a report, for the use of the committee, on the public open spaces of America; but at that time the only playground of which I heard, outside those attached to parks, was one at Boston.

The usefulness of these institutions cannot be doubted by anyone who has once seen such grounds crowded with children thoroughly enjoying themselves, and unconsciously strengthening their limbs and constitutions by games and gymnastic exercises performed under the open canopy of heaven. The London County Council and the Corporation of the City of London have been so convinced of the benefit which these playgrounds are to the rising generation, that they have not only taken over several originally made and temporarily maintained by the Metropolitan Public Gardens Association, but have constructed and enlarged others in the parks under their control. Open-air gymnasia, in addition to those scattered about the metropolis, are now to be found in the following London parks:

	For Men.	For Boys under Ten Years of Age, and for Girls.
Victoria Park.....	2	2
Battersea Park	1	2
Ravenscourt Park.....	0	1
Brockwell Park	0	1
Clissold Park	0	1
Wapping Recreation Ground	0	1
Vauxhall Park	0	1
Southwark Park	1 *	1 *
Myatt's Fields.....	0	2 { (1 boys only and 1 girls only.
Finsbury Park.....	0	1
Kennington Park	1 *	1 *

It is only in the royal parks of London that no public gymnasia are as yet to be found. Years ago I remember to have seen them in Manchester and Salford. I believe there are now many in the towns of Great Britain. One of the first open-air playgrounds ever constructed was at Manchester; it was made and maintained by Messrs. Armitage for the use of their work-people. Following their example, some years ago I constructed two for the use of the tenants on my property in the city of Dublin. The largest is divided by a railing into two portions, one for boys and the other for girls. It contains a giant stride, climbing mast, horizontal and parallel bars, swings, jumping board and cat gallows, skittle ground,

* Only one gymnasium, but separate hours for women and girls.

skipping ropes attached to a central post, horizontal ladder, trapeze and swinging rings, and a sandpit in which the little children dig and play whilst their mothers and nurses can sit round on benches, watching them or chatting. The other ground is too small to be divided, and is therefore on alternate days devoted to the exclusive use of boys or girls, as the case may be. A large painted board informs all whether it is a boys' or a girls' day. In each playground there is a care-taker, attired in uniform. The rush of children when these grounds were first open was so great that it was almost impossible, though two care-takers were employed in each ground, to keep any order for the first week, and consequently a few accidents occurred ; but since then I have had no complaint, nor have I heard of any further accident, though the grounds have now been open for five years. They are in constant use, and, now that the novelty of the thing has worn off, not so inconveniently crowded as formerly.

It was feared by some that the existence of these grounds might prove detrimental to the educational interests of the children, but it has practically been discovered that the playgrounds save the school officers a deal of trouble, as, if a child is absent from school, they have not now to hunt for him as formerly, but know exactly where he is to be found. Experience has shown that in Great Britain public playgrounds must never be left without a caretaker, and should be closed after dark ; but if these precautions are taken, and if in rough districts special aid be given the caretaker for the first two or three weeks after their opening, no further difficulty need be anticipated.

Up to the age of ten it appears advisable to allow boys to enjoy the use of the girls' playground, and after that age to provide them with a ground of their own, to which no adult should be admitted. The girls' gymnasium, to which admittance should be strictly forbidden to males, should be under the charge of one or more able-bodied women, and it should, if possible, be screened from view, so that the elder girls, who often need exercise even more than the boys, owing to the sedentary nature of their employment, should be able to use their limbs in perfect freedom from observation, and without injury to their sense of modesty.

The London playgrounds are of all sizes, from those in Spa Fields, Clerkenwell, and Union Road, Walworth, which contain respectively two acres and two and a quarter acres, to the little ground at Russell Court, Drury Lane, which is about the size of a West End drawing-room. Some of the smaller ones are asphalted ; the larger ones are covered with Croydon screened gravel, well rolled. The latter foundation is much safer than asphalt for the children to run and play on, but on the other hand the former has the advantage of enabling the children to enjoy the amusement of roller skating.

Open spaces and playgrounds should be provided on a systematic and

well-thought-out plan, by which they may be scattered at easy distances throughout the different districts of a town or city, and not be placed at hap-hazard, as is too often the custom at present.

The money required for the acquisition of open spaces should, in the opinion of the writer, be partly derived from a tax, say of ten per cent., on all NEW ground rents accruing after the passing of the act or ordinance legalizing the above proposal, a tax which land-owners intending to build should be able to contract themselves out of by presentation to the municipality of ten per cent. of their land, for conversion into public gardens and playgrounds for the enjoyment of the people.

PHYSICAL TRAINING OF CRIMINALS.

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It is not necessary in this connection to enter upon a description of the general features of life within a reformatory, so I pass on to a consideration of my subject proper. As the years went by, and the population of the Reformatory, steadily increasing, became more and more heterogeneous, it also became apparent that while methodical living, coupled with an unrelaxing discipline, reached a majority of the inmates, as evidenced by their responsiveness and improvement, there appeared to be an element beyond the operation of these agencies. Some were apathetic and listless, though possibly capable; others dull and stupid, as if their mental and perceptive faculties were dormant or undeveloped; many were brutes in human form, sodden and debased; and a number appeared incapable of prolonged manual application and mental exertion, and exhibited a proneness to nervous explosions of temper, combativeness, and destruction. They could not be classed as imbeciles and demented, or as of unsound mind, in the common acceptance of the term, but rather crude, unformed, and degenerate men.

After a disappointing experience, extending through a number of years, with this class of men and boys, the idea suggested itself that if they were such animals as they appeared to be and their propensities indicated, why not treat them as a stock-raiser does colts—regulate their food as to quantity and kind, groom thoroughly, and put them daily through their paces for physical betterment, that their potentialities, if any, might be realized and made apparent?

We were familiar in those days with the principles of physical education as taught both then and now, and their application for pedagogic ends. The more the idea of physical renovation of the class of boys and men just described was considered, the more it commended itself to us, until finally we determined to experiment. It was really an experiment,

as none of us had had any experience with physical training upon a selected number, and the writer was assigned to inaugurate the work.

In June, 1886, the initial class was formed. It consisted of twelve men, from nineteen to twenty-nine years of age, who for a period ranging from one to two years had made no appreciable progress in school work and hand-craft, and whose sensitiveness and susceptibility were upon a par with those of any other domesticated animal.

The plan proposed to be followed was the substitution of a special dietary for the regular prison fare, weighing out to each one his rations, that all might be observed under similar conditions. A common diet for all, the same in quantity and kind, was altogether scientific in its application, as the needs of certain individuals might indicate different forms of food; but this course was rendered necessary so as not to embarrass the domestic arrangements of the place too severely, and the difficulty was partly remedied by a varied diet.

The school work was to be continued upon a common plane, as all were practically illiterates. The reduction of the most advanced to the level of the lowest wrought no detriment to the former, and possibly might through companionship enthuse the latter. The class was organized June 6th, at which time the men were examined, weighed, and a few simple measurements taken. They were supplied with a new outfit of clothing throughout, and placed, so far as could be—even to the extraction of all carious teeth—in a condition to most readily respond to the plan of treatment mapped out for them. They were placed under the immediate care of the writer, under supervision of a fellow-convict, a man of energy who previous to arrest had associated in the training of prize-fighters and other pseudo athletes.

The morning, from eight to twelve, was occupied with school and bathing. Three baths per week were given, a tub and vapor bath alternating. Each was followed by douching and massage, and an hour allowed before dinner for relaxation, which was usually passed in sleep. I improvised a bath that was a hybrid—neither a Russian nor a Turkish bath—by turning steam into a room until a temperature of 120° Fahrenheit was reached. In this moist atmosphere the men were placed for half an hour. The crude bath served its purpose well enough in that it excited the glandular functions of the skin and corrected the “hide-bound” appearance of the men.

The afternoon was devoted to free-hand exercises, marching, military evolutions, etc., which usually occupied three hours or more, with frequent intervals of rest. This may appear an excessive length of time for a daily setting-up drill and calisthenic exercises, but we considered it better so than to undo our efforts and promote inertia with corroding thoughts by confinement in a cell. The experiment was continued for five months, at the end of which time they were returned to the routine of prison life,

to which conditions they formerly had failed to adapt themselves. Our facilities were imperfect, and a crudeness of procedure marked our efforts, yet there was a decided improvement manifested in the men in physiognomy, carriage, muscular increment, and general betterment of tissue and vegetative functions. But better than these were the evidences presented of mental stimulation and quickening.

The subsequent labor, conduct, and progress of these men during the remainder of their prison life was markedly in advance of what it was prior to the time of taking them in hand in the manner described, and it was demonstrated that the effects of five months of physical education were not ephemeral, even with most unpromising subjects.

In 1887 other classes were formed, and from this time dates the introduction of physical training into reformatory measures at Elmira. The work was, however, still experimental. Some men were treated in connection with a special dietary, while others received the ordinary prison fare. The value of this year's work consisted in the demonstration it afforded of the value of a special dietary. The men receiving a restricted amount of specially prepared food did better and were more responsive than those who had an unlimited amount of ordinary prison fare, sufficiently nutritive for all ordinary purposes, but not apparently meeting individual conditions in a particular class.

From 1887 the number of men subjected to physical training increased yearly. Instead of fools, dullards, and apparent incorrigibles, we began in addition to include those whose health declined simply as the result of imprisonment, those who had organic disease, together with those in whom there was functional impairment or perversity. In other words, the physical training class, by a process of natural selection, came to supplement the hospital as it had previously supplemented the school.

We were embarrassed through a lack of proper quarters. One week, with our classes, we occupied the main hall of the prison; the next we were in the end of a shop, where we were disturbed by the vibrations of machinery; and for a time our classes were in the loft of a barn; and between times, weather permitting, they used the quadrangle, either in the heat of the sun or the shadow of the building, according to the time of the day. We became accustomed to the order "move on" or "step lively," and acquired the Arab's facility in folding tents and silently stealing away.

The report for 1886, together with those of succeeding years, brought to public notice this phase of prison work. To many it was a novelty in prison administration, while to others it was simply the application of an educational measure of established value. In 1889 the legislature granted an appropriation for a gymnasium and bath-house, to be used in the scientific treatment of inmates physically and mentally deficient. The work of construction was begun early in the summer of that year and pushed

forward with such a degree of rapidity that the cold weather found the building under cover. During the winter the interior was completed, and March 20, 1890, in the presence of a few invited guests, the building was used for the first time. The opening exercises were simple in character, consisting of a few musical numbers, an exhibition drill by an inmate military company, and class work in gymnastics.

The building is without architectural pretensions, constructed of brick and slate roofed. Being detached, an abundance of light and air is obtained. The main floor is eighty-three by one hundred and two feet, and free from post, pillar, and obstruction of every kind. The roof is an open truss, and the ceiling of Georgia pine. Suspended from the roof and supported by the walls is a running track, eleven feet above the floor, on which seventeen laps and a fraction equal a mile. The distance from floor to ceiling along the lateral walls is twenty-one feet, and from floor to peak, forty-two feet. The equipment is a fairly complete one, of the Sargent apparatus. Situated in the east end of the building are the measuring and dressing rooms and bath. The bath is a dry vapor, Turkish, and comprises a hot and warm room, shampooing and douching room, and plunge. The floors of the bath, together with the sides and bottom of the plunge, are of marble. The walls are brick, painted white. With the exception of the iron work entering into the truss, and the slating of the roof, the building is the work of prison or inmate labor. The building, with plant of bath and apparatus, cost \$16,000, and for all practical purposes compares favorably with the more elaborate and costly gymnasia of note throughout the country.

The work of the gymnasium has increased year by year. In 1890 there were eighty-five assignments; one hundred and twenty-one in 1891; one hundred and thirty-two in 1892; with a prospect of a still further increase in 1893, or about ten per cent., year by year, of the entire prison population.

The various functions of this prison gymnasium may be inferred from what has been already said. It is in touch with every department, second to none in importance, and particularly related to the schools, the hospital, and to discipline. In its relation to the schools it is a place of preliminary setting up, of physical renovation and betterment, that vegetative functions and volitional processes may be quickened and amplified and a higher grade of man evolved, which is sought, not for increased immunity from disease, decline, and death, but for corporal excellence in its entirety, with resultant impress upon mind and manners. It is in touch with the hospital in that it receives many cases of functional disturbance and perverseness not in themselves inimical to life, but whose continuance disturbs the rhythm of the organism and the correlation of its several parts.

Errors of circulation, repair, and waste are more readily overcome by

supervised exercise, bathing, and massage than through detention in the hospital and efforts at improvement through chemical therapeutics. Then, again, in many affections convalescence is hastened by removal from the hospital and its atmosphere suggestive of morbid conditions, and the substitution of the activities of the gymnasium. The routine of the hospital is food, medicine, quiet, and sleep, with draughts and dominoes in moderation, and healthy reading—all good under certain conditions and serving a healthful purpose, but contradicted in others as favoring inertia and pseudo invalidism. The man in the hospital, unable to work, but up and about, who sleeps at night because the lights are down and nothing else remains for him to do, is not nearly as well off as the same individual placed in the gymnasium and a cell, and sleeping at night as the result of physiological fatigue. In particular has the gymnasium proved of service in the treatment of convalescence from epidemic influenza attended by persistent physical depression and mild melancholia. Physical training is related to discipline through the greater amenability established to law and order from the strengthening of parts, regulation of function, and removal of nervous irritation arising from unharmonious adjustment of the several systems of the body. In many instances mind and conduct are hampered and fettered by body conditions, and a man is unconsciously irritable and insubordinate in consequence of a morbid physiology.

The experience gained by extended contact and association with the population of a corrective penal institution has strengthened the conviction that the latent good there is in a man is not alone developed by hard labor for the profit of the state or other employer, in conjunction with three meals a day, a change of clothing, and at night a bed to sleep upon. Occupation, food, clothing, sleep, are all good in their way; all serve a useful purpose, and are what we accord to any beast of burden. But in the development of traits that mark a man, especially in one defective and out of adjustment with society, they do no more than perhaps contribute to length of days and the development of an Ishmaelitish state. Nor does sentimentality displayed through appeals to the emotions and the excitation of a state of nervous tension elevate the character of a man whose life has been one of criminous habitude.

When we refrain from profitless discussion concerning the duality of mind and body, and accept the former as an incognizable portion of the latter, we shall be in a position to better appreciate how mind and judgment, accomplishment and will, may be advanced or retarded by physical conditions.

The Reformatory plan of treatment recognizes that the erring boy has other claims upon the state than to be simply worked and fed and put to bed at night, that energy may be accumulated for the morrow's task. The state only essays to deprive him of his liberty for a limited length of time, during which it should, by rational and scientific means, at least

attempt to raise him to a plane where the operations of his body and the workings of his mind shall be in unconscious harmony with the social conditions he formerly antagonized. As an economic problem, it is far cheaper to educate a delinquent boy, bestowing upon him an education and knowledge of hand-craft, that he may be able to maintain himself by his own efforts in some specific calling, than to sentence and resentence him to institutions where the animal wants are supplied, and the labor of his hands utilized for the profit that may accrue to the management. Such an education should be rounded, symmetrical, and comprehensive ; not confined to occupation and moral means alone, but including every agent known to intelligence, and seeking the development of body, hands, intellect, judgment, and will. It is not assumed that every boy who has gone astray is reclaimable, or that physical education is a sole specific for moral ills of every description ; but the contention is, where there is an excellence of physical conditions, as you understand the term, an increased power for conformity to normal living is conferred over what obtains in the case of corporal depreciation, nervous irritation, and other conditions that appertain to an unstable man.

Systems and apparatus have been the cause of much variance of opinion, contention, and feeling among physical educators, and their discussions have waxed as warm as those of theologians concerning religious dogmas and beliefs. Without entering into the whys and wherefores, I would state we have employed the German system in the main, not in its entirety or according to the ideal of a Turner, but so far as we were able to adapt it to the peculiar conditions and restrictions under which we labored. As time went by, and we came into the possession of a gymnasium with a fairly complete equipment of the Sargent apparatus, consisting of chest weights, inclined plane, quarter circle, vaulting, horizontal, and parallel bars, flying and traveling rings, climbing ropes, poles, ladders, etc., we began to employ the so-called developing mechanisms. Not that we were disappointed in our efforts, or that our results were much if any below our reasonable expectations, but because we saw an indication for the employment of apparatus of the kind just named.

Many of the men, dull and stupid to a degree of not knowing the right hand from the left, were untaught of hand, and had no true coördinated control of the muscular system save for purposes of locomotion. They failed to comprehend the purpose of free-hand exercise, and were deficient in ability to promptly respond to a command, even when they understood its import. For this reason they failed to appreciate, in the effort and expenditure of force, an equivalent for themselves ; calisthenic exercises were drudgery to this class of men, and they regarded them in the spirit that they formerly did the policeman's command to "move on," which conveyed to them no other motive than the desire to compel them to do what they did not wish to do. But they could climb ropes and ladders,

hold fast to rings, raise themselves upon the horizontal bar, and hit the striking bag. These things were within their comprehension for the activity and muscular development they conferred. As the result of this apparatus, work with it paved the way for better performance of free-hand exercises through increased confidence in self, comprehension of a command, and celerity in the execution of the same.

We do not consider apparatus work essential to the betterment and renovation of the class of men comprising the gymnasium contingent, but as desirable in hastening the accomplishment of our ends.

We regard the bath of great importance. The tub has been discarded, and the dry vapor, or Turkish bath, substituted. The increased activity of the skin, through the agency of heat and stimulation by douching and massage, yield most satisfactory results in the treatment of the more common forms of cutaneous disease. It increases the glandular and eliminative functions of the skin; equalizes the circulation by the dilatation of cutaneous vessels, thus tending to relieve areas of localized internal congestion, and stimulates peripheral nerves. Each man is allowed three baths per week, and, on intervening days, a plunge at the close of the morning's work. We have yet to witness any injurious effects from the employment of the bath, even in cases of enfeebled cardiac action. To be sure, all are not subjected to the same degree of heat. Those who are greatly reduced, together with cases of cardiac disease, are treated in the warm room, where a temperature of 120° Fahrenheit is maintained; all others in the hot room, at a mean temperature of 150° Fahrenheit. Following the bath, as a reactionary agent, is the plunge, which is used by all, affording relaxation and pleasure, and an opportunity for learning how to swim. Since we adopted the plan of heating the water in the plunge to 70° Fahrenheit there have been no instances of shock or other unfortunate symptoms.

Excepting Sundays, the gymnasium is in daily use from seven A. M. to four P. M. At noon there is an intermission of an hour. The men are divided into general divisions—a morning and an afternoon division. Those in the gymnasium in the morning are distributed among the various industries in the afternoon, and are enrolled in the military. The afternoon squad is similarly employed throughout the morning. The men are divided into classes and sections according to their needs, deficiencies, and measure of responsiveness to treatment. The hours are long as compared with those of other gymnasia, and, as the result of general conditions obtaining throughout the place, are necessarily so, as it is inconvenient to divide a morning or an afternoon into two or more divisions each for a specific purpose. It is impracticable to place a man in the gymnasium for an hour a day, assigning him to a shop for the balance of the time. Such a plan would work confusion in both gymnasium and shop, and interfere with the performance of a specified common task in the latter,

necessitating special allowance for shortage of task, besides creating discontent in the matter of special privileges. But as the hours are long, we seek to do in half a day, less the time consumed in bathing, what perhaps is accomplished elsewhere in an hour or so. To compensate for the unequal length of time, as between the morning and afternoon, we have introduced into the morning scheme the element of play, and devote an hour to games, as basket and foot baseball. To those of you who are occupied in the contemplation of serious things, the introduction of games may appear to be a prostitution of the gymnasium. But as there is such a thing as overwork, and mindful of the saw to the effect that Jack needs play as well as work, we have, in response to certain conditions from which we cannot well escape, introduced the element of play, which has served a useful purpose in awakening interest, creating increased competition, and breaking the monotony of what would otherwise be a repetitious course, save as it was broken by progress and advancement.

Such, in brief, is the history of physical training in a penal institution. No one is more conscious than ourselves of our deficiencies and failure to reach an ideal plane. But as compensatory for a disagreeable retrospection, we compare with pleasure present means of treating physical insufficiencies, and accompanying shortcomings of mind and will, with former methods and the time when medicine and dosing followed every allegation of *malaise* and pain.

While the *personnel* of our class is constantly changing, it retains the same general characteristics. The man of to-day is the facsimile of his predecessor, and will in turn be resembled by his successor of to-morrow.

The most manifest deficiency of the men we are called upon to treat relates to the thorax. Pigeon-breasts are frequently encountered, and recently two cases of funnel-chests have been noted. This last, I take it, is not a common malformation, as these two cases are the only ones that have occurred in my experience. There seems to exist a particular susceptibility to pulmonary diseases, even in cases where there is no history of a family tendency. I have noted, also, the unusual frequency of morbid conditions relating to the pleura, and the repeated following of pleurisy by an effusion. While thoracic disease in these men is in many instances the result of former living, dissipation, exposure, and poor hygiene, it occurs in so many instances in which they cannot be considered as factors as to suggest that an unusual proportion are inherently weak in chest and possess small resistive power against conditions whose tendency is the production of thoracic disease.

While it is comparatively an easy matter to develop the pectoral muscles and add to the chest a symmetry of form, it is difficult to confer upon the intrinsic muscles of respiration an adequate and sufficient power. Shallow respiration, and insufficiency of vesicular capacity and power, are common throughout the prison. I notice it in connection with the military, and

note it in the gymnasium. Chest apparatus and free exercises appear inadequate to overcome the defect. Running accomplishes but little more, as shallow respirations attend this exercise, which, if continued in beyond a point not excessive and within the range of an ordinary growing boy, is followed by vertigo and nausea. Repeated commands result in mental confusion, with increased inability to properly fill and empty the lungs, and the pupil becomes discouraged. What the pupil cannot consciously or will not voluntarily do, he can be brought to do unconsciously, and for this purpose the tank is frequently employed. Those who can, inflate and empty their lungs to the limit of their power, in the tank; and those who cannot, but are attempting to learn, in response to a feeling of self-preservation and to keep afloat, manage to use their lungs as if they were blacksmiths' bellows. Two wooden cylinders, four feet long and one foot in diameter, are of great assistance in the tank. The boys attempt to climb upon and ride them, which, as they revolve, is no easy matter; and in anticipation of an involuntary plunge, a full, deep, unconscious inspiration occurs. Nearly every city boy can swim, while the number of those from the country who can do so is surprisingly small.

The popular idea is that nearly every cutaneous redness is erysipelas, and that pain and stiffness are of rheumatic origin. Every now and then instances occur where pain is referred to the ankle and foot upon standing for any length of time, and after running, jumping, and continued walking. The story in nearly every case is that the trouble is rheumatic and recurrent, and accompanied by slight swelling of the feet and frequently disqualification for work. Medical attention and medicine *ad nauseam* afforded no relief. An examination shows the most of these cases to be instances of *talipes valgus*, splayfoot or flatfoot, a condition declared by authors to be rare in the congenital form and common in the acquired. My experience has not been in accord with the writers. But then this may be due to the fact that these cases occurred in a class dominated by some degenerate condition, and which, if so, may be accepted as evidence of such degeneracy. Five cases of *talipes valgus* occurring among one hundred and fifty men, or plus three per cent., is a large percentage.

In pulmonary tuberculous disease, arrest of the morbid process within the lung has occasionally occurred in connection with physical training. The arrest of the disease, however, was nothing more than a suspension of process, as in time the cases terminated in the usual manner. The majority of cases of this affection pursued the usual course, uninfluenced by this means of treatment, which is at best but the application of a better hygiene. Baer states, as quoted by Osler, the mortality from consumption is four times as great in prison as outside.

Results somewhat more satisfactory are obtained in the class of cases formerly termed scrofulous or strumous, involving the lymphatic glands,

most commonly the cervical, and which is now regarded as tubercular in nature. The course of these cases is frequently deceptive, as disappearance of glandular swelling is in many instances followed by involvement of pulmonary tissue.

Functional disturbances of the nervous system, circulation, skin, digestion, bowels—frequently the result of prison life and deprivation of outdoor living—are treated in the gymnasium, instead of, as formerly, by sojourn in the hospital and drugging.

The line of your education and the trend of your ideas have prepared you to regard physical training, however you may apply it, as the development of the body to the measure of its fullness for the benefits that may accrue to the subject through the realization of the potentialities of the organism and the conferred increased resistance to morbid processes which impair activity and usefulness. While we have cherished the same idea, and attempted to uphold it, as a matter of fact successive years have in a measure characterized the gymnasium as a place for the treatment of minor ills. Thus, in 1892, ninety-two per cent. of those who participated in its benefits were there for this purpose.

It would be difficult, through the absence of well-defined lesion and specific disease, to apply a scientific nosology to all the conditions that prompted selection, which should rather be regarded as instances of faulty functioning and systems out of balance. A proper comparison would be to a piece of machinery whose integrity is unimpaired, but whose performance is faulty, due to lack of adjustment or disproportion of its several parts. Cutaneous diseases were a cause of selection to the extent of eleven per cent., comprising acne, eczema, and ringworm of the scalp. There were eight cases of acne, or six per cent. of the men were selected for the treatment of this disease. Among the inmates of the Reformatory, as outside, this figures as one of the most common forms of skin disease. It is not a grave affection, though in chronic and exaggerated form it may cause permanent disfigurement; but selection is had for treatment for the reason that its continuance denotes either errors of digestion, improper food, constipation, or self-indulgence. The pimply boy cannot be regarded as in the best physical condition, nor in position to give expression to the limit of his capabilities; hence he, together with those affected with other cutaneous troubles, are subjected to the influences of the gymnasium and bath, that a greater and higher degree of functional activity may be enjoyed. It is upon this class of cases in particular that the beneficial effects of bathing and massage are witnessed.

Cutaneous venous congestion appears in a large number of the men, imparting to the surface a livid or dappled appearance, resembling a faded piece of castile soap. Where no facilities exist for the vapor bath, excellent results, so far as stimulation of cutaneous functions is concerned, can be had through douching and rubbing. We have discontinued, in the bath,

the use of cold water. No good effects were seen to follow its use. There was a certain degree of shock attending, and an aversion to the bath was inspired. The opposition by some of the men toward the bath is almost incredible. At first it was a matter of surprise, but later we came to regard it simply as the displayed opposition to a radical change of habit. Three baths per week appeared a work of supererogation, particularly to those whose habit it had been to dispense with a general bath throughout the winter months, and whose general person never came in contact with water from fall to sheep-washing time in the country, and from the closing to the opening of the public baths in the city. To many country boys the plunge bath was particularly repellent, and persuasion, command, and sometimes force were necessary to get them into it for the first time.

The question is frequently asked, How do your men enjoy the gymnasium? Some throughout the entire time they are there are interested and heartily coöperate; others, when the charm of novelty has passed away, do their exercises perfunctorily and examine themselves as they never did before in the hope of finding some overlooked and latent disqualification. Some are interested in the apparatus and class work and indifferent in the games, while others attempt to shirk the former and display great interest in the latter. What is distasteful in the work is not excused. It is considered a part of the man's education to do the work that is set before him, even though it be displeasing, to the end that what was originally unpleasant may become a pleasure as proficiency is attained. There is scarcely a day but what some men, not in the gymnasium, request to be placed there, and those who are already there ask to be transferred to other activities. Generally, in either case, the request is ill-considered and arises from a morbid desire for change. Some even go so far as to discredit the work of the gymnasium and make it appear they are deriving no benefit, but, on the contrary, are sustaining an injury from the continuance of physical training. They may even go so far as to provoke fictitious disease, decrease their weight, induce pallor and a quickened pulse through the ingestion, sometimes habitually, of soap, tar paper, rosin, chalk, vinegar, and molasses in excessive quantities, sucking copper, etc.

And again we are asked: Are the men you treat in the gymnasium benefited sufficiently by physical training to justify the additional expense incurred, and is an equivalent returned equal to the interest upon the money in the building? It is a wise man who can figure out in dollars and cents a net return resulting from an expenditure of money for hygiene and educational purposes. We are probably as successful as our neighbors in assisting those whom we treat to structural amplification, to gain in strength, to increased functions, vegetative and intellectual, to greater range of coördinated action, and to subordination of animal to the ethical and intellectual. It is impossible to gauge the full measure

of success or failure by means of charts and tabulated figures, as reference is not had solely to the present or immediate future, but to remote after-days, that the influence of our instrumentalities may manifest themselves in other and happier phases of life. Gross corporal results can be tabulated. Those more subtle and relating to mind and conduct cannot be formulated, but must be evolved by association and observation of subsequent living. The same measurements in vogue in prominent gymnasia are employed and repeated in a given case, from time to time, to demonstrate the degree of responsiveness.

It is not measurements alone, important as anthropometry is, that conveys an idea of the success of this gymnasium or that. The fullness of accomplishment should not be gauged by structural increase alone, as revealed on tape-line, calipers, and measuring rod; or augmented muscular power, as shown by the dynamometer and other tests; but rather as it develops potential power and brings out that which will be of the greatest value to the individual. The training should be carried out along the line of greatest proficiency, keeping in view the law of natural limitation. It must be development, not creation.

The material we have to work upon is not the most promising. It is a deluded stream of beings of defective ancestry, inauspiciously conceived and antagonized before birth, whose surroundings, voluntary and involuntary, operated to reduce physical forces and nullify that subtle power, that unknown quantity, that determines the quality of a man.

THE NORTH AMERICAN TURNER-BUND—ITS HISTORY, AIMS, AND ACHIEVEMENTS.

BY HUGO MUENCH, EX-PRESIDENT NORTH AMERICAN TURNER-BUND,
ST. LOUIS, MO.

THE North American Turner-Bund (Gymnastic Union) is an organization which now unites over forty-two thousand members, distributed over well-nigh all the States of this Union; which looks back upon a history of over forty years of gradual and steady growth, and which is not founded upon those principles of modified selfishness which cement most modern social organizations, but which, on the contrary, demands, and has always received, from its members many forms of personal sacrifice. It must therefore be based upon some living principles that are both humane and inspiring, and which do not spring merely from temporary need or personal advantage.

An understanding of the nature and principles of the Turner-Bund cannot well be had without recalling the history and fortunes of its founders.

The science of "turning" (true gymnastics) was created by Jahn, Gutsmuths, and other educators and leaders, at a time when Germany's only hope of throwing off the Napoleonic yoke seemed to lie in a regeneration of the German race itself. By restoring to its pristine vigor the body of the German youth, Jahn and his co-workers sought also to restore independence and strength of mind ; and how well they succeeded in this endeavor was shown by the bearing of their disciples in many a subsequent contest.

The spirit of liberty, however, which the followers of Jahn had imbibed, and which rapidly spread into the German high-schools and universities, grew so inconvenient to the organized despotism of Europe that "turning" was for a season proscribed in Germany, and Jahn himself was rewarded for his trouble by a term of prison life. But the love of independence that had been implanted could not so readily be eradicated. The so-called "Revolution of 1848" united the best and brightest minds of Germany in an effort to republicanize their native land. They had counted, however, without that element whose aid alone could have rendered their efforts successful—the common *people*—and their lot was failure and expatriation. The great majority of this band of patriots were cast upon our shores, where they met with varying success in their efforts to begin life anew.

One thing can always be said in their praise. Not one of them, in the land of their second love, ever forgot or denied those high ideals which had been the inspiration of their youth. These were the men that called into being the first organization for physical culture, the legitimate fruit of which is the present "Turner-Bund."

It was certainly natural that these founders, being themselves at once exponents and products of the high training which the universities of their native land afforded, should be desirous of preserving for themselves and their posterity the advantages of German culture, literature, science, and art ; and believing that the preservation of language was prerequisite for the maintenance of those accomplishments, they ordained that the Bund thus formed should be *German-American*, and that in its proceedings, as well as in its interpretation of gymnastic science, the German language alone should be used.

The origin of our Bund, thus traced, easily leads to an understanding of the fact that one of its tendencies has always been and is now an extremely patriotic one. Not only must every foreign-born member acquire the rights and duties of citizenship at the earliest practicable moment, but the various societies composing the Bund are held to arrange lectures and discussions upon the principles of pure republicanism, to commemorate patriotic dates and events, and to preserve from forgetfulness the names of those whose lives were devoted to the cause of human freedom and enlightenment.

Not in mere words has this patriotism found expression, but the Bund can refer with pride to the fact that during the late civil war every Turner hall in the United States had to be closed, owing to the fact that every member capable of bearing arms was actively engaged in the field; and in that struggle for the preservation of our Union we believe that none fought more manfully than our brethren, and, when the contest was over, none were more swift to extend a helping hand to their fallen foe than the survivors among the so-called "Turner regiments."

True to the original plan of Turner societies, a social feature also forms an element in the composition of our Bund. A common bond of fellowship, a community of aims and thought, forms a living tie between its members, the firmness of which is strengthened through periodical festivals, both in districts and by the national organization. Old and young are thus thrown in happy contact, and besides furnishing a valuable gauge of intermediate progress, such festivals serve to establish new friendships and to cement the old.

By far the most important feature of our organization, however, and one which has wholly outgrown the limited notions of its founders, is the *educational* one.

With the development of our educational, business, and professional life has arisen a most unanswerable demand for physical development as a curative of the errors and exactions in the direction of mental overstrain. Possessing a system of physical culture the superior of all, carefully built up and scientifically created not by any one man but as the result of the study and research of a long line of eminent scientific men, a system at once ample in its present means of physical training and infinite in its opportunities for further development, the Turner-Bund soon felt it a privilege, and recognized it as a duty, to spread and *nationalize* that system for the common good of the entire country.

Out of its by no means ample resources it dared to attempt the education of fit persons in the art of scientific gymnastic training, and from a small beginning in that direction has grown that institution known as our normal school, the history and merits of which form the topic of my colleague's address, and which may well be termed the proud keystone of a structure reared by over thirty years of persistent effort.

It goes without saying that with the attempt to *nationalize* our German system of physical culture arose the necessity for yielding at least a part of that exclusiveness which had characterized the early years of our Bund. While it is still an organization which believes in bi-linguistic culture, and which bears its part in preserving in this country those characteristics of German art, culture, and science that will and do adorn and develop true American character, yet the Turner-Bund has long since recognized the necessity for transcribing the garb in which the science was originally clothed into the language of this country, and has so fitted its instructors

that each and all of them are capable of entering every American school-room fully equipped for the work of conducting all classes in school gymnastics.

Our aim has been, and will ever be, to make the standard of proficiency in our instructors so high that the possession of a diploma from our normal school shall be a surer guarantee of fitness for their chosen profession than any fanciful degree that has hitherto served to gain appointment for gymnastic instruction.

In conclusion I would say, therefore, that to aid in the physical regeneration of our race is one of the chief *aims* of the North American Turner-Bund, and to have borne its full share in the labor of that reform will have been one of its proudest achievements.

We fondly hope that the Turner-Bund will never tire in its efforts until the glorious end has been achieved.

DISCUSSION.

MISS L. GARDE, of Providence, R. I. : The first point noticeable in the Fatherland is the fact that the proper culture of the body is compulsory. The Germans in America have the same thought. They do not lose many moments in arguing this point, but have put their methods into the schools of the States where they largely predominate, because the underlying principle—the need of a trained physical being—must be established. I am well aware not every one will agree with me when I state that we need compulsory laws in this country to train the body, just as we need and have such laws for the training of the mind.

We have a large class of persons in every community in America who give no attention whatever to anything above the mere material demands of an animal existence. The most ignorant parent among this class appreciates the worth of what he does not possess—a common school education. While he uses all means to keep his son or daughter at school, and impresses upon his children the great worth of understanding the three R's, he says nothing about the equally priceless worth of a well-trained body. Why not educate him and his children to this knowledge? Make, as in Germany, a national law enforcing daily physical exercise in our common schools; and as we grow more quickly to the appreciation of a good thing than in the older civilizations, a noticeable change for the better would soon be observed. It is to the German-Americans we owe the first step in this direction. Ohio has passed a compulsory law, and sees no reason to regret it. Pennsylvania has another on the docket; Wisconsin has just defeated a bill, but such matters die hard; and little Rhode Island will be the first of the New England States to follow the lead of the North American Turners' work.

The permanence of the work of the German-Americans is shown by the manner in which they establish indoor and outdoor gymnasiums, as in the home country. Father Jahn, sensible man that he was, recognized the truth that the natural child wanted something more than the mere moving of arms, legs, and head; that he wanted playthings; that he used resistance, and must have objects to cultivate his powers. And so he built places where real boys and real girls could play with each other and with something in the never-idle hands. And though there is not that lavish expendi-

ture of money in Germany that there is in America, gymnasiums are to be found all over the country, in every hamlet as well as in every city.

Educators in Germany do not sit in solemn conclave and reason with each other as to the manner in which body training can be put into the public schools as cheaply as possible. Nor do the German-Americans here. Whatever is required in apparatus is secured. The gymnastic appliances in the cities in which their teachings are established are as much a part of the school furniture as the books, ink, or furnaces. They go farther and supply the school gymnasium. Instead of keeping the children confined in school two and three hours continuously, and then allowing them a five minutes' drill in the aisles, they should be sent at least once in each session for twenty minutes' vigorous work in the school gymnasium.

Each city in Germany of over fifteen thousand inhabitants contains one or more outdoor gymnasiums, and is taxed for the maintenance of the same. Would it not be a wiser policy to maintain such places, keeping them open at all times, under proper supervision, than to employ policemen and truant officers to hold under control the large numbers of American children who literally live in the streets for want of a better home or other playground? I make a plea for the German outdoor gymnasium. The success of the two at Charlesbank, Boston, is the best guarantee of what this German idea would do for the uneducated mass from which our criminals come by the natural process of street, reform school, and prison. Through German-American forethought, Sandusky, Ohio, has the first out-door school gymnasium.

The individual instructor of German nationality sinks his own personality in his desire for the common weal. He is heartily in earnest, has no axe to grind, and is not a carping critic of his fellows. With the German-Americans the happiness of the child is ever uppermost.

The German-American idea is to exercise for recreation, for relief from study. Their pupils respond cheerily to the commands given; they obey because pleased and happy in gymnastic play. The German-American child, dismissed with a good hearty game, is radiant with happiness and an appearance of health.

Two other points in the aims of German-American teachings are worthy of notice. The German idea of gymnastics, according to the great writer Spies, must be object teaching, after Froebel's thought. Consequently we see the greatest diversity, not only in muscular movements, but ideas preceding the same. This educates the child not alone physically but mentally, leading him to think *out* what he is to do, and making the will act on the muscles. Imitation gymnastics, the worst and most common of all school gymnastics, are not seen if the true German principle is kept uppermost. Everything in the curriculum of the schools leads toward independent thought and action. If children are to be made reasoning beings, why not carry out this idea in their gymnastic study? A child ought to be able to comprehend which is up, down, sideways, and forward, to the right and to the left; and yet teachers of gymnastics go on, year after year, showing intelligent pupils how to step back and how to jump and how to twist their heads and how to pose in so-called beautiful attitudes. These instructors would be the first to assert that such children, if not able to show the top and bottom of a slate, or the northeast corner of a map, were candidates for the asylum for the weak-minded. The German-American method trains the mind of the child. Few other so-called systems do it. The final thought demonstrated in Germany is that before a man or a woman is allowed to study for leadership in physical work, it must be shown both by education and physique, and some measure of grace inborn or acquired, that the profession will be dignified, not the profession dignifying the individual. I believe this to be another principle which governs the leaders in the progress made by the North American Turner-Bund, as allied with the gymnastics in the public schools.

THE ROYAL CENTRAL INSTITUTE OF GYMNASTICS IN STOCKHOLM.

BY L. M. TÖRNGREN, DIRECTOR OF THE INSTITUTE.

THIS institute was erected by the Swedish government after the plan of P. H. Ling. His intention was to make it a normal school for teachers of gymnastics, by which a perfect physical education should radiate to all parts of his fatherland. To the realization of this plan Ling devoted all his energy.

Ling met with many obstacles ; but he was understood by a few, and among them was Bernadotte, the crown prince at that time. His royal Highness understood what Ling aimed at, and supported him in his struggles. The result was that some old buildings that had been used as a foundry in Stockholm were changed into a gymnasium, a fencing-hall, and other rooms for necessary purposes. In addition a very limited sum of money was given. Thus the institute was enabled to begin operations in 1814.

It is well known that Sweden at that time had gone through several wars, that it had lost a great part of its territory, that it was on the very verge of ruin in all respects. What should be done ? was a question that occupied all patriots. Ling was most active and successful in his work of answering the question. His idea was to make physical education as perfect as possible for all children throughout the whole country ; and he aimed to carry his idea into effect through the students of the institute. The idea itself was not new, but no one had as yet tried to carry it out on a large and practical scale.

At first there were but few persons of education who would sacrifice their time to such a dubious undertaking as gymnastics, which in general was considered a juggler's joke. Meanwhile, some practical experiments showed what could be done for the development of the physique by gymnastics, given methodically and with good judgment. Some officers of the army were ordered to go through the course at the institute, and some other patriotic individuals went through by their own impulse. Such was the beginning.

The course of instruction at the institute was at that time, and is still, free from charges of any kind, and foreigners are received, though to a limited extent. The institute developed more and more under Ling's skillful hands, and it soon became recognized in foreign countries. For a short time it was connected with the army department, but it was soon transferred to the educational department, where it still belongs.

Ling was the director until his death, the 2d of May, 1839. His pupil, Gabriel Branting, succeeded him as director, which post he held until 1862, when he resigned.

At this time a reorganization of the institute took place. A new code of regulations was promulgated in 1864. It was then put under a separate administrative board of directors, consisting of four men nominated by the king. These directors are not salaried; they have to meet at least once a month, when the preceptor shall present reports and propositions. The preceptor is chosen from among the head-teachers for a period of five years. Until 1862 the institute had been subordinate to the same authority as the schools and colleges in Stockholm, and until that time the course was finished in one year. In 1862 it was stipulated that the course should be extended to two years. These rules were valid until 1887, when some essential changes were made. These changes consisted in making out three courses, or classes, that come one after the other, each taking one year. The first course prepares instructors; the second prepares teachers of gymnastics; and the third course or year is entirely given to medical gymnastics. Each of these courses ends with a public examination. The first course gives a right to become a teacher in the lower schools, if no one with a certificate of a higher examination applies at the same time. The second course, that for two years, trains teachers of gymnastics for the larger schools, where the pupils' ages vary more, for which reason the teachers must have a corresponding knowledge and experience. The third course is, as already said, based upon the two others, and is entirely given to medical gymnastics, the study of which is begun in the second year. It will be readily understood that all studies belonging to this latter course are of great value to all teachers of gymnastics, and this circumstance is a reason for those who wish to become teachers to take the whole or the three years' course.

Concerning the theoretical studies at the institute, it may be enough to say that they are anatomy, physiology, hygiene, pedagogical and medical gymnastics, science of movements, pathology, the theory of fencing, and the different manuals.

All regular teachers of gymnastics in our normal and public schools must have passed the two courses first mentioned at the institute; the reason for this being that the same method of gymnastic instruction is nowadays carried out throughout the whole country.

The institute has also to inspect the exercises in the different schools all over the country. These inspections are very useful. A young teacher receives thereby suggestions and advice, if in any way he shows himself to be mistaken about the application of what he has learned at the institute.

Those who wish to take a course at the institute must at least have passed the examination of maturity, which is the same as that exacted of candidates for entrance to the universities. At first the institute was only intended for male students. Very few female students passed any of the courses there before 1864, and up to that time such courses were private rather than public in their nature. But in 1864 a regular course

for women was instituted, and now this course is very much appreciated, as is shown by the great number of females that apply for admittance to it. It is required that women who wish to attend the institute shall have the same standard in their studies as those who enter the normal school for the higher education of teachers. The institute has about twenty-five female students and fifty male students. The reason for admitting a larger number of men is that the army and navy are also supplied with teachers of gymnastics by the institute. There are now thirteen teachers, of whom two are lady teachers.

Ling's idea, to have one system all over the country, is thoroughly carried out; and all authorities that have had occasion to give an opinion upon the exercises have without exception affirmed their good influence.

We have also had the pleasure of seeing a great number of foreigners at the institute. They study there for a longer or shorter time, and carry the idea of our gymnastics with them. We have also witnessed how institutes, with the same plan, have been established in other countries. I can but use this occasion to express my great satisfaction of what I have seen in America in this regard; and I confidently hope for a lively and strong coöperation in the future between the institutes on this side the Atlantic and those in the Old World.

HISTORY OF PHYSICAL EDUCATION IN DENMARK.

BY JOAKIM LARSEN, SUPERINTENDENT OF THE FREDRICKBERG
SCHOOLS, COPENHAGEN.

THE history of gymnastics in Denmark begins with the philanthropic movement in the educational world. Before that time some of the better schools had indeed their fencing- and dancing-masters and calisthenic exercises, and games were used, but any special instruction in gymnastics was not given until introduced by Franz Nachteggall, who was born in Copenhagen, 1777, graduated at the University of Copenhagen in 1794, and had commenced to study theology when the death of his father obliged him to become a teacher in order to support his mother. From his earliest childhood he had been fond of all sorts of bodily exercises; later he had learned gymnastics and fencing, and now he accepted a situation as teacher of gymnastics at the educational institute established by the Rev. Christiani, chaplain to the king, and soon after he also became teacher of gymnastics at another private school. The manual published by Gutschmuths, teacher at the philanthropic institute at Dessau, was used by him as a text-book.

In the beginning of 1799 he founded in Copenhagen a *gymnastic society*, whose members were students or young commercial men, and whose object

was to promote gymnastic exercises. Here Nachteggall got an opportunity to train himself as a teacher, and in November he sent out an invitation to found a *private gymnasium*. He succeeded in his plan, and the Copenhagen gymnasium, opened in January, 1800, was the first educational institute in Europe entirely devoted to the training of the body. In a few years after its foundation it counted one hundred and fifty pupils, children and adults, among the latter being a Swedish theological student, Mr. P. H. Ling, afterward the founder of the Swedish gymnastics. Nachteggall succeeded in interesting in the cause a number of influential government officers, university professors, clergymen, and teachers. Some of these sent their children to attend the gymnasium, others wrote its programmes and were present at the annual exhibitions, or recommended gymnastic exercises in articles and lectures.

The Rev. V. K. Hjorth, afterward bishop, even published in Danish an extract of Gutsmuths' manual. Besides this, Nachteggall interested the prince regent in gymnastics, so that he helped him to get a good hall for the purpose. The prince also frequently visited the gymnasium, and caused several of the royal princes to be sent there for instruction.

Gymnastics as a regular branch was now introduced into several Copenhagen schools, not only in private schools, as "Efterslogts-selskabet's" grammar school, where a young theological student, Mr. H. I. Mønster, who afterward became bishop, was the teacher, but it was also introduced into several charity schools. In 1802 Nachteggall and Mønster delivered a series of lectures on the subject of calisthenic exercises, and when Nachteggall in 1804 was appointed professor of gymnastics, he lectured on the theory and different methods at the normal school, established in 1790, a short distance from Copenhagen.

In 1804 Nachteggall founded the "Society for Promoting the Art of Swimming," that gave gratis instruction to charity-school boys, arranged swimming matches, and distributed prizes. In the beginning they carried zeal so far as to swim more than eight thousand eight hundred yards.

In the preface to the second edition of his manual (1804) Gutsmuths was fully justified in mentioning that with regard to gymnastics Denmark had outstripped all other countries in Europe. It is also necessary to remark that an educational stamp was given to the gymnastic exercises from their first introduction into Denmark. They were introduced by a divinity student, and altogether supported by men occupying civil positions. They were practiced in schools before being introduced into the army, and the first teachers were theological and normal-school students.

In 1804 the government established a military gymnasium for the training of non-commissioned officers to become teachers in the army, thus founding the first government institution of the kind in the world. Mr. Nachteggall was appointed principal, and left the charge of his own private gymnasium to one of his pupils. In 1805 Nachteggall published his first

“Handbook of Gymnastics,” a small text-book for the use of military gymnasiums prepared after the Gutsmuths system. In the same year he also began the training of some theological and normal-school students for teachers of gymnastics. At the end of the course they had to pass an examination in theory and practice as well as in teaching.

The training of teachers was carried on more extensively after the king, in 1808, founded *the civil gymnasium*, to procure teachers of gymnastics for the public schools. From 1809 to 1816 pupils were sent from the different normal schools to Copenhagen, and they not only received free tuition, but even their traveling expenses and board and lodgings were paid by the government. Their training finished, they returned to teach gymnastics at the normal schools. They also formed classes for country teachers who already had positions. Mr. Meedom, a teacher of gymnastics at a normal school in Jutland, published a guide-book in gymnastics to enable teachers who had not received special training to teach calisthenic exercises. By the law of July 29, 1814, that organized the public schools all over the kingdom, it was ordered that if the teacher possessed sufficient proficiency he should give the children an hour's instruction in gymnastics daily, outside of the regular school hours, and if possible he should also teach swimming. At every school there ought to be drill-grounds and apparatus for gymnastics. The regulations of 1818 for normal schools also admitted gymnastics as one of the compulsory branches. Still the movement was not received with great enthusiasm outside the capital, except where it was furthered by zealous magistrates, civil and clerical. The population on the whole did not understand the importance of the training of the body; besides that, teachers were wanting in many places, and everywhere money was scarce, owing to the miserable economical state of the country. This also caused a reduction of the army, and Nachtgall only kept his place as principal of the military gymnasium by giving up his salary. He retained the favor of the king, drew up regulations for the gymnastic instruction of recruits, and was appointed superintendent of gymnastics in 1821. In this position he had, especially the first year, the charge of the educational institutions of the army and the navy, for they as well as the civil and military schools were under his care. This connection was not, indeed, in all respects favorable to the school gymnastics, but at all events it served to keep up the interest for the cause in certain circles until better times should come.

When the financial state of the country had improved and the importance of bodily training was better understood, Nachtgall drew up a proposition for a guide-book to be used for gymnastics in the public schools. Considering the heterogeneous local conditions, he had arranged the instruction in three different grades, and, besides, had partly adapted it to the Lancaster method, which the king greatly admired. This method was eagerly

advocated by a committee appointed to adapt the proposition to the different conditions existing in city and country, so as not to hinder the progress of the cause. Nachteggall was obliged, though reluctantly, to submit to the adoption of methods still more approaching to the Lancaster system. On the 25th of June, 1828, Nachteggall's manual was authorized as a text-book to be used at the instruction of gymnastics, and four thousand copies were presented by the king to schools and school authorities. Furthermore, *gymnastics was now made a compulsory branch, to be introduced into all the schools.* In the country the simplest of the three grades in the text-book was to be used at all events, and in the towns and the capital one of the two more complete grades. Furthermore, a normal school was established at the military gymnasium for the free instruction of teachers. This school was opened in 1828, and was attended by more than two hundred teachers in the first year. During the following years gymnastic exercises were introduced into all the Danish schools. Copenhagen was at the head of the movement by providing accomplished teachers (non-commissioned officers) and good halls, and by appointing an especial municipal superintendent of gymnastics. Forty country schools in all the provinces were arranged as model schools, and a couple of years after Nachteggall was sent on a tour of inspection to the normal schools in the country. In 1834 he published a text-book on gymnastics for the use of grammar and high schools, and in 1837 he drew up new regulations for the army, thereby finishing his meritorious career. In 1842 he resigned his office as principal of the gymnasium, and died in 1847.

Though the government, even after the death of Frederick VI. in 1839, continued interesting itself in having calisthenic exercises performed in the schools, and by a number of instructions tried to overcome the obstacles that, especially in the country, stood in their way, yet it was only in the towns that the movement progressed. In the country schools gymnastic exercises were indeed taught—judging from the annual reports—but in many of the schools this teaching was very insignificant. In many places the schools had not even gymnastic apparatus or a suitable drill-ground. Owing to this condition, Colonel Niels George la Cour, who had been Nachteggall's assistant from 1829, and had succeeded him as principal of the gymnasium, and in 1847 as superintendent, tried to improve the teaching of gymnastics. In 1855 he succeeded in getting his new text-book authorized, in which the antiquated Lancaster system was entirely given up and some slight changes introduced into the exercises. He also influenced the Department of Public Instruction to make an attempt to improve school gymnastics by enjoining the teachers to keep the drill-ground and apparatus in good order, and by enforcing the inspection of schools. In the severe season the schoolroom was to be used as a hall. These arrangements were not exactly welcomed by several teachers and

school boards, and when the superintendent also began personally to inspect the instruction at the schools, and thus found out that the state of gymnastics in many places was very deficient, the displeasure at last gave itself vent in a bill presented in the House of Commons, petitioning that it might be left to the different school boards to decide whether gymnastic instruction was to be given or suspended for a while. The bill did not pass, however, yet several authorities did not look upon gymnastics with favor for some years after.

When La Cour in 1870 resigned his office as gymnasium superintendent the place was not again filled, but the office of "inspector" was substituted. The inspector has nothing whatever to do with the army, but has only the charge of institutions belonging under the Department of Public Instruction, and has also to be a member of the board of examiners. This office has been filled by Colonel John Theodore Wegener, Chamberlain, and afterward by the former principal of the military gymnasium, Colonel Julius Amsinck. The latter is the author of a new text-book authorized for the use of schools.

With few exceptions, only boys were taught gymnastics; but during the years 1860 to 1870 the physician, Professor A. G. Drachmann, made an attempt to introduce Laisne's French gymnastics into girls' schools, only succeeding, however, in very few cases in Copenhagen.

Favorable to the gymnastic movement, however, were the rifle corps formed by young men in 1861. Already, four years after, these corps had become popular, and everywhere in the country new ones were formed. Of course they aimed principally at making the young men good shots, but bodily exercises were also on the programme, and as gymnastic exercises were performed at their public exhibitions, the interest for them increased. Division captains were trained for teachers of gymnastics by the military teachers, and Mr. Amsinck's new manual was published as a text-book for rifle corps. In these, and independent of them, gymnastic societies were formed that tried to surpass each other at the public exhibitions that have been given since 1878.

Through voluntary contributions gymnasiums were erected in the country, as many as thirty in the same district. At present there are about two hundred and fifty halls and seven thousand to eight thousand grown-up members in these societies. The increasing interest, spreading from adults to children, was also furthered by the "people's high-schools," attended in the winter by young men, and in the summer by girls belonging to the peasant class. Almost every high-school had its own gymnasium, and here it was that the Swedish gymnastics was first introduced. They sent for lady teachers from the Central Gymnasium at Stockholm, and young men from the high-schools went to Sweden to get acquainted with the new system. The high-schools of Vallekilde and Askov especially distinguished themselves. A teacher of gymnastics at the former school, Mr.

N. H. Rasmussen, civil engineer, in 1883, was the first advocate of the new system. He completed a full course at the Swedish Central Gymnasium, and in 1887 opened an institute for Swedish gymnastics in Copenhagen that during the last years has been attended by four hundred and thirty-six gentlemen and a number of ladies. Other private gymnasiums have also been established in the course of the last few years, many of them exclusively for women. Of these gymnasiums, some have adopted the Swedish system; others, as Mr. Paul Petersen's, have tried to combine the exercises of the Swedish system with that of the Danish.

Many, however, saw that a reform was needed. It was recognized that a fault had been committed in not following the healthy track *Nachtegall* had entered, and that a more pedagogical and physiological stamp ought to be given to gymnastics. After a lively discussion, that lasted a couple of years, the Department of Public Instruction appointed a committee, consisting of the inspector, Colonel Amsinck; a physician, Dr. Hertel; and of Professor Kromann, a leading educational authority, to devise a plan for the improvement of the instruction in gymnastics. After having visited Stockholm and Berlin, the committee gave as its opinion that the faults in the Danish way of teaching had their origin, first, in the defective training of the teachers; second, in the imperfect apparatus of the schools; and third, in the exercises not being chosen judiciously with due regard to physiological and pedagogical demands. The committee therefore proposed, first, that gymnastics in all the boys' and girls' schools in Denmark should take rank with any one of the most important regular branches; second, that it should be taught during a greater number of hours; third, that suitable halls and apparatus should be provided; fourth, that a well-arranged physiological and pedagogical system of exercises must be procured, suited to the different sexes and ages; fifth, that a staff of lady and gentleman teachers should be trained whose physiological and pedagogical knowledge should enable them to use advantageously the new system of exercises; and finally that a gymnasium for the training of lady and gentleman teachers should be established under the Department of Public Instruction.

This department has now appointed a committee to prepare a new system of exercises according to the principles indicated, and, furthermore, has taken steps to secure a piece of land near Copenhagen for the intended gymnasium for teachers. The committee above mentioned is expected presently to finish its work by publishing a new text-book on gymnastics.

GYMNASTICS IN THE KINGDOM OF SAXONY—A HISTORICAL REVIEW.

BY PROFESSOR MORITZ ZETTLER, OF CHEMNITZ, SAXONY.

THE beginnings of organized efforts in behalf of gymnastics in Saxony may be traced back to the year 1818, when a club of about one hundred students of the University of Leipzig devoted two evenings per week to exercises in gymnastics. They did this during the summer in a garden. During the earlier part of the third decade several academic gymnastic societies were formed, the founders of which were students who had come from Berlin and had been Jahn's pupils. But in Leipzig, as in other parts of Germany, the agitation against demagogues caused by the assassination of Kotzebue in 1819, destined the first organized efforts in behalf of gymnastics to an early death. In order to uproot this "evil dangerous to the state," the police of Leipzig in 1825 ordered the parallel and horizontal bars and other apparatus of the societies to be sawed off. This did not prevent the disciples of Jahn from continuing their exercises in secret.

It is important to note that in 1824 the educational institute established by Hander in Leipzig mentioned gymnastics as an integral part of its course of study. All indications point to the fact that this institution was the first school in Saxony in which gymnastics were fostered. For the further development of physical education in Leipzig, the two afterward very distinguished physicians, Bock and Schreber, were especially active. They familiarized the people, by means of example, the spoken word, and the press, with the aims and effects of bodily exercise.

In Dresden a few army fencing-masters had made use of parallel and horizontal bars in their instruction, but with little effect. The conditions changed, however, when Joh. Ad. Ludwig Werner, a retired army officer, opened a gymnastic hall in 1831 in Dresden, and conducted it with great skill. Most of the private and public schools aided the enterprise, so that the number of its pupils soon rose to several hundreds. Also girls' gymnastics found much favor. It cannot be denied that the instruction in gymnastics given by Werner contained much charlatanism, but the fact remains that he induced many noted people of authority and influence to examine into the educational merits of physical exercise, a thing that had been despised hitherto.

Almost at the same time (in 1833) Otto Heubner established in his native city, Plauen, in Vogtland, a gymnastic hall that was well patronized. As a consequence, in other cities of the Vogtland similar institutions were opened.

Werner, in 1836, submitted to the Saxon Chamber of Deputies (*Ständekammern*) two of his works, with the request "to take suitable measures to secure for physical education of the youth the same consideration that is given to intellectual education." The matter caused considerable discussion in both chambers. The result was the passage of a resolution "to introduce gymnastics into all the high and normal schools of the kingdom, and to appropriate one thousand five hundred Reichsthaler (\$1,125) per annum for that purpose."

Without delay gymnastics were introduced (in 1837) into all state high-schools (*gymnasia*) and training-schools for teachers. Though it took some time before satisfactory results could be shown, the resolution referred to had established something which was destined to be of lasting influence. Many years after that—namely, in August, 1876—gymnastics was made an integral branch of the course of study in all secondary schools (in *gymnasia*, "real-schools," and seminaries), and obligatory for all students. Two hours per week was the time appointed for regular gymnastic exercises. At present the faculties of these schools have each a teacher who has passed the state examination in gymnastics for high-schools and conducts the exercises. Every secondary school of whatever kind in Saxony has a gymnastic hall and suitable grounds. A state inspector of gymnastics, appointed by the minister of education, supervises the work of physical training in secondary schools of the kingdom.

The first institutions for gymnastics were intended for male youth only, but from the very beginning men of riper age became interested in physical exercise, and hence boys, youths, and men exercised together. When a boy had succeeded, by means of good results, in becoming a "Vorturner" (a section leader), he was in some institutions, by virtue of his position, allowed to take part in the deliberations of the members. This led, in many towns of Saxony, shortly after 1840, to the formation of gymnastic societies for adults, who, however, made it a special object to facilitate and foster physical exercise among the boys of their town. They offered special instruction for boys in their gymnastic halls, or, in some cases, placed their own teachers at the disposal of the public schools. Soon followed efforts to draw the girls into the movement by interesting the parents in the matter, and appointing special hours for girls' gymnastics. The societies which did most in this direction were those of Plauen, Leipzig, and Dresden. In these cities gymnastics for children reached a high standard of excellence.

Gymnastic societies developed in Saxony especially during the period from 1843 to 1848. Fifty-four flourishing societies sent delegates to the convention of gymnasts that met, November 1, 1846, in Dresden. At this time the society at Dresden was the largest; it assumed a leading position by affording an example for imitation, in its admirable organization, to all other societies in the kingdom. Many of its members aided energetic-

ally the periodical *The Gymnast* (*Der Turner*), which was first issued in January, 1846. This publication was so well conducted and found so much favor that during the "second German gymnastic festival," held in Frankfort-on-the-Main in 1847, it was made the official gymnastic organ of entire Germany.

The society in Dresden also arranged for two courses for the training of gymnastic teachers. The society's propositions to the minister of education, concerning the establishment of a state training-school for gymnastic teachers, found approval. The minister announced as early as March 16, 1849, "that he considered it his imperative duty to give gymnastics a place of equal importance with other branches of public education; that therefore he had concluded to establish a training-school for gymnastic teachers, who could conduct such exercises in the light of pedagogic science, and that he had ordered the necessary preparation for the opening of such a school." At Easter of 1849 the institution was to be opened, but the insurrection which took place during the following May prevented the execution of this plan. Not until October 23, 1850, was the institution formally opened, and the principal, Moritz Kloss, introduced into his new office.

The insurrection mentioned was the cause of preventing the contemplated introduction of gymnastics into the lower schools. Many noted gymnasts from the different societies for physical culture had participated in the insurrection (popularly styled the Revolution of 1849), and after it was quelled, an indiscriminating reactionary movement against gymnastic societies was inaugurated, so that the development of gymnastic art was checked. At many places it was entirely destroyed, and its practitioners were pursued with unusual severity. Life in gymnastic societies took a fresh impetus when preparations were made for the third national gymnastic festival, to be held in Leipzig in 1863. The wars of 1864 and 1866 impaired the activity of the gymnastic societies in Germany but little. But the glorious war of 1870 offered the Saxon gymnasts opportunities, both in the field and at home, for giving energetic expression to their patriotism.

Political discussions have been prohibited on principle in the Saxon gymnastic societies. This has enabled them to grow undisturbed by police authority. At present there is in Saxony no city or good-sized village without at least one gymnastic society; even many small settlements have a society of that kind. A statistical enumeration of January 1, 1892, records 615 cities and towns with 757 gymnastic societies, that have 87,388 members over fourteen years of age; of these, 51,901 are active gymnasts, led by 4,597 "Vorturner" (leaders of sections). If we consider the fact that the entire empire had at the same date 4,597 societies, with 447,046 members, of whom 227,628 were active gymnasts, it is seen that the kingdom of Saxony occupies the sixth place in regard to the number of

societies, the fifth place in regard to the number of members, and the fourth place in regard to the number of active gymnasts.

The royal government approached the question of gymnastics again in the year 1857, by adopting a set of rules for the examination of teachers of gymnastics, and in 1863 it permitted the introduction of gymnastics into lower schools by "recommending it to the local authorities most urgently." But it is to be regretted that few cities and villages availed themselves of the opportunity, for, according to the statistical report of the German Gymnastic Union of 1869, the schools of only twenty-seven cities and three villages, and four state schools situated in villages, had obligatory gymnastic exercises in their courses of study. Hence not ten per cent. of the school population received gymnastic training.

The new school law of April 26, 1873, admitted gymnastics, as a "dietetic means of education for boys as well as for girls," among the essential branches of study in all the schools. The school authorities now began to introduce gymnastics into elementary schools where hitherto it had not been done. Since the law fails to state at what year of age the exercises in gymnastics are to begin, the curricula of the different schools and cities vary on this point quite considerably; but it comes very near the truth to say that, as a rule, gymnastics begins with the fourth year of school, or the tenth year of age. Also some differences are noticeable with respect to the time devoted to physical exercises. In some communities only one hour per week is given to gymnastics, while in the majority two hours are given.

The transitional regulations issued to secure an effective execution of the new school law of 1873 permitted the postponement of the introduction of gymnastics until 1878 in communities where the necessary institutions could not at once be established. The local authorities of many country schools took advantage of this privilege, and after the transitional period of five years numerous petitions asked the minister and the House of Deputies for a further extension of the time. Statistical material gathered by the president of the Saxon Gymnastic Teachers' Society from the reports of the school inspectors confirms the fact that only one of the school districts of Saxony has introduced gymnastics in all its schools; that, furthermore, in twenty-three districts a number of schools are still without gymnastic apparatus. In seventeen of these districts no less than fifty per cent. (the highest was 93.8 per cent.) of the schools fail to live up to the law.

It is the rule in elementary schools (*Volksschulen*) to have gymnastics conducted by the regular class teachers. Very few of these schools employ special teachers. In extensive institutions, such as city ward schools in Leipzig and Dresden, it has been found expedient to place this instruction in the hands of specially trained and experienced teachers.

PHYSICAL EDUCATION OF THE DEAF AND DUMB.

ABSTRACT OF PAPER BY ALBERT GUTZMAN, INSTRUCTOR IN INSTITUTE
FOR DEAF AND DUMB, BERLIN, PRUSSIA.

THE question of the physical education of the deaf and dumb is not the same as with the education of persons in a normal condition. There are many defects found in deaf-and-dumb persons that are independent of deafness. These defects arise largely from the mode of life during their childhood. These children, if they belong to the poorer families, are seldom allowed an opportunity to become familiar with streets, fields, and forests. Sometimes they are locked up, day by day, while their parents go to work ; and their natural powers, physical and mental, remain dormant. Improper food and inattention to their manner of eating are causes of physical weakness and of many defects not common in children who hear.

By comparing statistics relative to persons who were deaf from birth and those who subsequently became deaf, it is found that those of this latter class are most numerous. From the fact that the deaf-mute does not use his organs of speech, the organs of breathing remain undeveloped, and a larger percent. of this class die between the ages of twenty and thirty than of persons in a normal condition as to hearing and speaking.

The physical exercise of the deaf and dumb has first of all to adjust and repair the defects of these pupils. The way to do this must differ from the training for hearing, healthy children. So the physical education of the deaf-mutes is first gymnastics, for curing and to develop the organs of breathing. The purpose in view in their physical exercises is quite different from that in public schools in general. There is little or nothing done for the physical education of the deaf and dumb child before he is sent to school.

The first condition of all development is movement. So the deaf-mute child must be trained to stand, walk, and run. He must be given much movement, not only at home, but in garden, field, and forest. In standing and moving the breathing is quicker, and with it the strength is increased. F. Smith has calculated that if one gives the magnitude of breath in lying as 1, it is in sitting, 1.33 ; in walking slowly, 1.9 ; in walking quickly, 4 ; in running, 7.

Keeping the bodies of small children straight in sitting, standing, and walking is a very important exercise. The trailing of the feet, characteristic of deaf-mutes, is a sign of physical relaxation and want of physical agility ; and the causes of this are nearly always to be found in the first years of the child's life. Here much could be improved even by suitable educational influence. In rich families, the attentive and conscientious

family physician will look after it, but in the cottages of the poor this help is wanting.

The more movement and change of mode of life the deaf-mute child has, the more it is incited and prepared for the development of oral language. With normal children this is the time of their greatest evolution in speech. This is also the period of the greatest spontaneous movement. The hearing child practices his speech seldom while in a state of full bodily rest, but along with moving, catching, walking, and running. The deaf-mute child without instruction does not learn the formation of articulated sounds of speech.

The influence of deafness on the development of the lungs cannot be especially great if the deaf-mute child is early incited to talk and receives instruction in speech. We can see this in the well-known fact that the small deaf-mute child usually laughs and cries as much and as loud as the hearing child and thereby exercises the lungs. A great number of deaf-mutes do not become deaf before a later age, after they have learned to speak. The neglected exercise of oral language is undoubtedly a great disadvantage to the physical development of deaf-mutes.

Instructors of experience with deaf-mutes think that loud speaking is most advantageous for the health of the deaf-mutes ; that the instruction in oral language ought to be introduced generally and as early as possible. The oral language is the principal means, fixed by nature, for strengthening the breast organs, which are always weak with the deaf-mutes. Oral language is for the deaf-mutes the real gymnastic-hygienic exercise. When the celebrated Gall performed the duties of a physician in a deaf-and-dumb asylum at Vienna, he observed that after introduction of oral language the diseases of the lungs were rarer than before.

Every deaf-mute who is fit for education ought to get instruction in oral language, particularly on account of his physical education. Speaking implies an activity of breathing conducive to the ventilation of the lungs that we do not find in any other human performance. While the usual breathing is done regularly, and inspiration and expiration are of nearly equal duration, in speaking the inspiration is short and deep, but the expiration long and often interrupted. The speaking requires a more frequent and deeper inspiration, therefore an increased ventilation, which is beneficial for the lungs. And not only for the lungs is the speaking of beneficial effect, but for other important organs. Arthur Ames Bliss, a well-known laryngologist in Philadelphia, Pa., has recently made examinations with four hundred and fifteen deaf-mutes, of whom three hundred and three were taught only by the sign-language. With these he found a far greater number of deformities than with those taught by oral language. These defects were in the nares, at the tongue, at the palate, at the tonsils, at the pharynx, at the larynx, and at the vocal bands. Most of the deaf-mutes who did not use oral language had vocal

bands of a dull gray color, bowing or wavy at their free margins; or they were so thin and narrow as to be unusually obscured by the ventricular bands. Efforts at phonation showed the adducent muscles to be weak and inefficient.

One ought not to undervalue the way of rational teaching in oral language on account of real sanitary causes. Teaching may even be dangerous for the health of the deaf-mute child. Schmalz says: "In cases where speaking has been neglected in early childhood, it must certainly be done with greatest cautiousness, that the inactive lungs be not suddenly fatigued."

In his first development of speech the hearing child shows us how the teaching of speech is to be done. He learns the language while walking and running, leaping and jumping, and nearly unconsciously in playing. Therefore the deaf-mute children ought to practice speaking under quite free conditions. Instruction in speaking must not turn into training and drilling. When the sounds and the utterance of them are developed, the child should practice them first under guidance of the teacher, and later without him. The activity of breathing is the base for the voice as well as for articulation.

"Much movement during the time of formation of oral language is the law of nature." This law should be carefully observed in the instruction of the deaf-mutes in oral language.

Also in the further instruction of the deaf-mutes in school, besides the systematic gymnastics, there should be frequent interruption of work done in sitting by work done in standing or walking during the lessons, and likewise more out-door exercise, as is usual with hearing children. Lessons in object teaching, geography of the surrounding country, and natural history could be given in the open air. Besides the proper gymnastic games, suitable youthful games should be used in the physical education of the deaf-mutes. The German school gymnastics are best for deaf-mutes. The Swedish gymnastics are simply mechanical exercises of the muscles, and the least suitable for deaf-mutes. German gymnastics are not only gymnastics of the muscles but of the nerves too, and produce not only strength of the muscles but skill of the muscles, and secure a thoroughly harmonious physical education.

Looking at that adjusting question, we find in the first school years the physical training of our deaf-mute pupils must be kept in the foreground of the plan of education, while the mental and moral-religious education and the appropriating of knowledge may be left to the later life. Therefore the physical exercise in the first school years must have an essentially different plan of instruction for the deaf-mutes than that for later years. During the first years of instruction we have to do with a more or less spoiled and neglected organism, that must be prepared by systematic exercise of usual life in childhood for the purpose of education.

I have the opinion that gymnastics on horizontal and parallel bars, trestle, etc., in the first school years of the deaf-mutes, must give place to free exercises in simple standing, walking, running, leaping, and jumping, which increase the strength of breath and voice. Boys may climb up and down on a perpendicular bar, or practice on the rope in moderate height. During the first three or four school years I never allow the prescribed exercises to be exceeded. But the pupils should have at least three systematic lessons in gymnastics weekly till the end of the school-life and still longer. The two weekly lessons in gymnastics usual in our public schools are not sufficient. The gymnastic lessons during the week are like food that is too much to allow starving and too little to live on.

The deaf-mutes in larger towns like to keep together; and who can blame them for that? Even the well-educated deaf-mute feels lonely among hearing people, while he is well understood by his equals. Under these circumstances it cannot be difficult to unite the deaf-mutes who have left the school.

In the year 1888 I established with some of my former deaf-mute pupils a gymnastic club, which succeeds very well. The first years I conducted it myself, and had much pleasure with it. At present they get on very well without my help. One member of the club—a deaf-mute—is gymnastic guard, and commands the free gymnastic exercise in oral language. The head masters of gymnastic exercise conduct and guide the classes by oral language. The club makes excursions independently and with much benefit. Their language of intercourse is the oral language.

Being at present the chairman of this club, I do myself the honor to invite the members of the World's Congress to visit our club, which practices four hours weekly.

In March of the year 1884 I made the following gymnastic fixations of the first gymnastic class of boys of the deaf-mute school here:

The section contained thirty-seven pupils, of whom the three eldest were seventeen years old, the youngest ten years; the average age was fourteen years. The heaviest pupil weighed 56 kg., the lightest 25 kg. The average weight was $38\frac{1}{2}$ kg. The tallest figure was, in easy position, 1.62 m.; in straight position, 1.64 m.; the height of the smallest boy was 1.19 and 1.20 m.; the average height, 1.41 and 1.43 m.

The greatest extent of the breast was, in easy position, 79 cm.; in straight position, 83 cm.; the least was 56 and 59 cm.; the average width of the breast was 63 and 67 cm. The pupils practiced gymnastic exercise on an average two lessons weekly, during five years and a quarter. The performances were as follows:

(a) Bowing of the arms on the horizontal bar, from hanging stretched till touching the bar with the chin: The highest fifteen times, the least once; on the average, six and a half times.

(b) Bowing of the arms in lying leaned on the parallel bars: Highest

number, twenty-five times ; the least, twice ; on the average, eleven times.

(c) Racing in the open air : The least performance two and a half minutes ; the highest, twenty minutes ; on the average, about ten minutes.

Thus, a boy of fourteen years, weighing $38\frac{1}{2}$ kg.; 1.43 m. tall, with a width of the breast of 67 cm., having practiced gymnastic exercise for five years and a half, performs climb-drawing on the horizontal bar only six times and a half, bowing of the arms in lying leaned on the parallel bars eleven times, and racing in the open air only ten minutes.

This is hardly the measure in capability of performance which I have attained under most unfavorable gymnastic circumstances with, on the average, younger boys (hearing) in the school in Bütow.

A third fixation of similar kind I made especially for this essay with thirty-one active members of the "Friedrich" gymnastic club. The number is composed of the smallest and tallest, of the youngest and eldest members, as well as of those who in age and height are between those. Therefore this measurement, even in this small number, is of some value.

SUMMARIES.

(1) The deaf-mute child has many important bodily defects which endanger his life and his later capability to earn his bread.

(2) To adjust this, or partly to prevent it, one has to begin as early as possible the physical education of the deaf-mute child in family and school, and to carry it through systematically over the school time.

(3) The most excellent means for the physical education of deaf-mutes are exercise in oral language and physical gymnastics. To the latter, as the most perfect system of education for the human body, one ought to give the suitable time and position in the plan of education of the deaf-mutes.

DEPARTMENT

CONGRESS OF RATIONAL PSYCHOLOGY.

SECRETARY'S REPORT.

FIRST SESSION—WEDNESDAY, JULY 26, 1893.

THE Congress of Rational Psychology in Education, which met in Room 27, Art Palace, was called to order by Dr. W. T. Harris at 9.30 A.M., Wednesday, July 26th.

Professor G. T. Ormond, of Princeton, announced the following official secretaries: Messrs. C. O. Seudder, W. C. Dodge, and Miss Luella Little.

Dr. Harris then introduced Dr. James McCosh, of Princeton, who presented a paper on "Reality—What Place has it in Philosophy?"

This subject was discussed by Dr. Harris; Professor Ormond, of Princeton; Dr. Laws, former President of the University of Missouri; Dr. Boardman, President of Maryville College, Tennessee; Dr. Black, of Missouri Valley College; Dr. Hayes, of Maine; Professor Mills, of Western College; Mrs. Maynard, of Cornell; Miss Buckingham, Mr. Russell, and Mrs. L. P. Brightman, of Chicago.

A paper by Dr. Josiah Royce, of Harvard, was read by Dr. Harris. Subject, "Can Psychology be founded upon the Study of Consciousness alone, or is Physiology needed for the Purpose?"

Among those who took part in the discussion were Professor Ormond, of Princeton; Dr. Boardman, of Maryville College, Tennessee; Professor Shorey, of the University of Chicago, and Dr. Lewis, of Chicago.

SECOND SESSION—THURSDAY, JULY 27, 1893.

This session of the Congress met at 9.30 A.M. Dr. James McCosh presided.

The first paper was presented by Professor G. T. Ormond, of Princeton, on "The Soul as the Basal Concept of Rational Psychology."

Dr. Laws, formerly of the State University of Missouri, opened the discussion; he was followed by Dr. Lummis, of Appleton, Wis.; Dr. Boardman, of Tennessee; Dr. Charles Lewis, of Chicago; Dr. Black, of Missouri Valley College; Dr. Foster, of the University of Chicago; and Mr. Sanders, of Georgia.

The Very Rev. Augustine F. Hewit, D.D., of the Catholic University, Washington, D. C., being unable to be present, the Rt. Rev. John J. Keane, of Washington, D. C., read his thesis on "The Theory of the First Principle in the Eleventh Book of Aristotle's Metaphysics."

Professor Ormond was given an opportunity to answer his critics.

Bishop Keane opened the discussion of Dr. Hewit's paper. Dr. Smith, of Connecticut, asked Bishop Keane several questions, which were ably answered. Dr. Boardman, of Tennessee, continued the discussion. He was followed by Dr. Foster, of Chicago; Dr. Ormond, of Princeton; and Dr. Lummis, of Appleton, Wis. Bishop Keane closed the discussion.

THIRD SESSION—FRIDAY, JULY 28, 1893.

This session met at 9.30 A.M., Dr. McCosh in the chair.

Dr. J. Gould Schurman, President of Cornell University, not being present, his thesis, "Self-Activity in Education," was read by George P. Brown, of Bloomington, Ill.

This subject was discussed by Dr. Harris; Dr. Ormond, of Princeton; Miss Crozier, of the State College of Mississippi; Dr. Boardman, of Tennessee; Mrs. Brightman, of Chicago; Dr. Laws, of Missouri; and Dr. Harris.

A thesis, "Wundt's Psychology of the Will," prepared by Professor E. B. Titchener, of Cornell University, was read by Professor Ormond, of Princeton.

Dr. McCosh did not comprehend the paper, and felt like making a rule that no paper should be presented except by the one who wrote it. Dr. Ormond explained the theories of the paper as he understood them. Dr. Boardman, of Tennessee, felt that there were ultimate truths which the paper seemed to deny. Dr. Hayes, of Hayes College, Maine, and Dr. Laws further discussed the subject.

Dr. McCosh remarked that in general the agreement between the participants in the discussions was greater than at first appeared. The discussions were in a reverent spirit. "We are gradually approaching a belief in reality, in realism." More attention had been paid to education at this than at any other meeting. He complimented Dr. Harris's labor, and moved a vote of thanks to Dr. Harris for his services in preparing for this meeting and for the cause of education in this country. Unanimously carried.

Professor Ormond moved also a vote of appreciation of, and thanks to, Dr. McCosh for his eminent services and advice. Carried unanimously by a rising vote. After which the session adjourned *sine die*.

A paper by Rev. Dr. Samuel W. Boardman, of Maryville College, Tennessee, on "Theo-centric Education," had been submitted, but time failed for its reading.

LIST OF PERSONS ACCEPTING THE OFFICE OF HONORARY VICE-PRESIDENT OF THE DEPARTMENT CONGRESS OF RATIONAL PSYCHOLOGY.

CANADA.

Prof. John Watson, Queen's College, Kingston, Ontario.

George M. Duncan, A.M., Yale University, New Haven.
Edwin W. Runkle, A.B., Yale University, New Haven.

GREAT BRITAIN.

ENGLAND.
Bernard Bosanquet, Esq., A.M., University College, Oxford.
Prof. William Wallace, Oxford University, Oxford.

Rev. J. E. Dickey, A.B., Emory College, Oxford.

ILLINOIS.

Rev. E. L. Rivard, C.S.V., St. Viateur's College, Bourbonnais Grove.
Ezekiel G. Robinson, D.D., LL.D., University of Chicago, Chicago.
Walter Smith, A.M., Ph.D., Lake Forest University, Lake Forest.
James H. Tufts, A.M., University of Chicago, Chicago.

UNITED STATES.

CALIFORNIA.

Rev. W. S. Matthew, A.M., D.D., University of Southern California, University.

COLORADO.

Charles Caverno, A.M., LL.D., University of Colorado, Boulder.

INDIANA.

Rev. Gregory Bechtold, O.S.B., St. Meinrad's College, St. Meinrad.

CONNECTICUT.

Rev. Andrew C. Armstrong, Jr., A.M., Wesleyan University, Middletown.

IOWA.

Barton O. Aylesworth, A.M., Drake University, Des Moines.

Rev. John D. Burr, A.B., B.D., Central University of Iowa, Pella.
 R. C. Glass, A.M., S.T.B., University of the Northwest, Sioux City.
 Rev. Richard C. Hughes, A.M., Tabor College, Tabor.
 J. S. Mills, A.M., D.D., Western College, Toledo.
 James Simmons, Jr., A.M., Iowa College, Grinnell.

KANSAS.

Rev. Solomon A. Alt, A.M., Wichita University, Wichita.
 Rev. William R. Kirkwood, D.D., College of Emporia, Emporia.

KENTUCKY.

J. V. Logan, D.D., Central University, Richmond.
 Rev. John M. Worrall, D.D., Centre College, Danville.

LOUISIANA.

Rev. George W. Henderson, A.M., Straight University, New Orleans.

MAINE.

Rev. Benjamin F. Hayes, D.D., Bates College, Lewiston.

MARYLAND.

Rev. John J. Tierney, A.M., Mt. St. Mary's College, Mt. St. Mary's.

MASSACHUSETTS.

William E. Huntington, S.T.B., Ph.D., Boston University, Boston.
 Edgar Pierce, A.B., Harvard University, Cambridge.
 Benjamin Rand, Ph.D., Harvard University, Cambridge.
 Edmund C. Sanford, Ph.D., Clark University, Worcester.
 William G. Tousey, A.M., B.D., Tufts College, Tufts College.

MICHIGAN.

William T. Bland, B.S., Battle Creek College, Battle Creek.
 Rev. Henry E. Butler, A.M., Alma College, Alma.
 Alfred H. Lloyd, A.M., University of Michigan, Ann Arbor.

MINNESOTA.

Johan S. Carlson, A.M., Gustavus Adolphus College, St. Peter.
 Very Rev. Dr. Peter Engel, O.S.B., St. John's University, Collegeville.

MISSISSIPPI.

Richard M. Leavell, A.M., University of Mississippi, University.

MISSOURI.

J. Louis Kessler, Ph.D., Central Wesleyan University, Warrenton.
 Rev. Cleland B. McAfee, A.M., Park College, Parkville.
 Rev. W. R. Rothwell, A.M., D.D., William Jewell College, Liberty.
 C. M. Towles, A.M., La Grange College, La Grange.

NEW JERSEY.

Rev. John G. Hibben, A.M., College of New Jersey, Princeton.

NEW YORK.

William Caldwell, A.M., Cornell University, Ithaca.
 Miss S. L. Chapman, Elmira College, Elmira.
 Rev. W. P. Coddington, D.D., Syracuse University, Syracuse.
 Rev. Absalom G. Gaines, D.D., LL.D., St. Lawrence University, Canton.

Joseph H. Gilmore, A.M., University of Rochester, Rochester.
 Frank S. Hoffman, A.M., Union University, Schenectady.
 James H. Hyslop, Ph.D., Columbia College, New York.
 Brother Ivo, O.S.F., St. Francis' College, Brooklyn.
 Rev. Charles M. Tyler, Cornell University, Ithaca.

NORTH CAROLINA.

Rev. W. M. Hardgrave, D.D., Biddle University, Charlotte.
 Henry H. Williams, A.M., B.D., University of North Carolina, Chapel Hill.

NORTH DAKOTA.

Horace B. Woodworth, A.B., University of North Dakota, University.

OHIO.

Elias Compton, Ph.D., University of Wooster, Wooster.
 Rev. Henry Garst, D.D., Otterbein University, Waterville.
 Rev. Henry C. King, A.M., Oberlin College, Oberlin.
 Rev. M. Loy, D.D., Capital University, Columbus.
 Rev. Francis P. Nussbaum, S.J., St. Xavier College, Cincinnati.

OREGON.

Benjamin J. Hawthorne, A.M., University of Oregon, Eugene.

PENNSYLVANIA.

William R. Newbold, A.B., University of Pennsylvania, Philadelphia.
 Rev. Matthias H. Richards, D.D., Muhlenberg College, Allentown.
 Rev. Henry T. Spangler, A.M., Ursinus College, Collegeville.

SOUTH CAROLINA.

Rev. J. W. Flinn, A.B., South Carolina College, Columbia.
 Gordon B. Moore, Furman University, Greenville.

TENNESSEE.

Collins Denny, B.L., A.M., Vanderbilt University, Nashville.
 Thomas C. Karna, A.M., University of Tennessee, Knoxville.
 Edward E. Weir, A.M., Cumberland University, Lebanon.

TEXAS.

Walter Lefevre, A.M., Ph.D., University of Texas, Austin.

VIRGINIA.

Rev. Luther A. Fox, A.M., D.D., Roanoke College, Salem.
 Rev. John A. Kern, D.D., Randolph-Macon College, Ashland.
 Rev. James A. Charles, D.D., LL.D., Washington and Lee University, Lexington.
 William D. Thomas, A.M., D.D., Richmond College, Richmond.

WEST VIRGINIA.

Rev. P. B. Reynolds, D.D., West Virginia University, Morgantown.

WISCONSIN.

Rev. E. J. Gleeson, S.J., Marquette College, Milwaukee.
 Rev. Henry Lummis, D.D., Lawrence University, Appleton.

RATIONAL PSYCHOLOGY.

REALITY—WHAT PLACE IT SHOULD HOLD IN PHILOSOPHY.

BY DR. JAMES McCOSH, EX-PRESIDENT PRINCETON UNIVERSITY.

THIS is an important question. I regard it as the most important in philosophy in the present day. Scanty systems have arisen from the oversight of it.

I.

In establishing my positions I remark that every one believes in realities. Every one believes in two kinds of realities. He believes in his own existence. He believes, or rather knows, that he thinks and feels; that he is liable to grief and joy, to hope and fear. He believes and knows things without him; in that man or woman, in the various organs of his body, in that wall or house, as also in that tree before him, in the greenness of its foliage, in the hardness of its trunk, and in the smell and taste of its fruit.

We can appeal to the proper tests in justifying reality. First, the objects are self-evident. We know ourselves by simply looking within, and objects around by simply looking without. We need no further evidence. But secondly, this is confirmed by the circumstance that this belief or knowledge is necessary; we cannot be made to believe or know otherwise. We cannot be made to believe, by any argument or by any reasoning, that these objects do not exist. But all the while we have a belief or conviction which abides with us. Then, thirdly, this belief or knowledge is universal. Not only do I believe in these objects, but every man does the same. He is sure that he himself exists, and that certain objects around him exist. He carries this conviction with him wherever he goes. Philosophy which is an expression of our nature should do the same.

II.

Reality cannot be established by syllogistic or mediate proof of any kind. No man can prove mediately his own existence, or the pains he feels in his own body, or the existence of that stone or plant which he sees and touches. To prove that there is life or mind, we must have life or mind in the premise. Without this, the alleged proof will evidently be illogical. For it is acknowledged on all hands that in order to a right con-

clusion we must have the object or truth in the conclusion involved in the premise or premises.

The attempt to prove Reality has ever led to unmeasurable confusion and error. Descartes, the father of modern philosophy, propounded an argument, *Cogito ergo sum*. But if the *ego* be in the *cogito* the whole alleged argument for Reality is an evident assumption, for already we have the Reality there. If the *ego* be not in the *cogito* we have no proof whatever, as what we have in the conclusion is not in the premise.

WAY IN WHICH REALITY IS DISCOVERED.

Starting in this way with real objects, we prosecute farther investigation by induction. This is the method pursued by Reid and the Scottish school. It was derived originally from Francis Bacon, and had already reached many important points in the discoveries of Sir Isaac Newton and others. The Scottish school perceived this, and were anxious to secure like results in the study of the human mind, using self-consciousness rather than the senses in the gathering of the facts. In this way they had been so far successful in the account which Reid and Stewart and others had given of the faculties of the mind. Not that they for one instant regarded this induction as the foundation of their philosophy, which had its foundation within itself in the principles of common sense (Reid) and fundamental laws of thought (Stewart). But they represented Induction as the means of discovering these laws. Thus they built up a philosophy resting on deeper principles, but discovered by the cautious and safe method of Induction.

We may consider more carefully the way in which Reality is discovered. Take this stone or this tree. I perceive them to be realities by the senses, especially of sight and the sense of touch, and I cannot be made to decide otherwise. I cannot prove it mediately or by syllogism ; I have no premises to establish the point that this stone exists or this tree exists. The mind has cognitive powers by which it discerns these objects, that they exist. In the same way, by the inner sense or reflection, we discover within us at once certain things, such as hope and fear, joy and grief, exciting us.

By the same or farther cognitive powers we may come to know farther qualities of these objects—of this stone, that it is hard ; of this tree, that it grows rapidly. This knowledge may increase from day to day till the number of objects becomes beyond our calculation. When there is an addition or multiplication of these real objects there is no lessening or increasing of Reality, which continues the same.

Having Reality in the individual object—say in the stone or tree—we have Reality in the general notion, in stone or tree. Having Reality in the qualities of concrete objects, we have Reality in the abstract. Thus, Reality in the hardness of the stone implies Reality in its quality of hardness

Thus we have Reality in every form of it when we have Reality in the concrete individual.

Finding Reality in all these quarters, I think we are entitled to call the inquiry and the results which issue from it the philosophy of Realism, and to adopt it as the true philosophy.

III.

Reality is got not by reasoning, but by immediate inspection—by what is usually called Intuition. We have cognitive faculties for this purpose, especially the inward and outward senses. We know ourselves, and especially our various ideas, moods, sufferings, by self-consciousness. We know these extended things by the senses as cognitive, particularly by sight and touch. We need no mediate proof. In regard to these things, proffered probation would be felt as an incumbrance and would turn out to be invalid.

We have here primary truth which does not need support, but which may give support to other truth reared upon it. Knowing objects to be real, we may draw other objects from them which are also real, by argument—say by mathematics, by ordinary science, by common observation.

There may be times when we are not sure whether the object is a reality or a phantom, whether that whiteness seen in the darkness is a ghost or a sheet put out to be dried. We are to settle the question by an examination of the appearance, using, if need be, all the senses.

It is to be understood that when we have the real we can also have things, derived from it logically, also real. Thus, having the individual oak as real, we have oaks in general as also real. The reality in the singular goes up into the general.

There are some who maintain that Realism must not only establish the reality of objects, but must show what the reality consists in. Now, I am willing to admit in establishing reality we must know somewhat of the nature of the reality. It is thus that we can separate it from other things; only thus we can think or speak of it. Still it is not by psychological but by the Real sciences that we must determine the real nature of the object. Mental science must know somewhat of the nature of water before it can declare it to be a reality. But it is not psychology but chemistry that must settle what this reality is, that water is composed of oxygen and hydrogen. It is astronomy and not philosophy that must show us what is the relation of the planets one to another.

It is to be understood that while the mind has the Real by the cognitive powers, it may also have the Ideal by the imagination, and the two not inconsistent one with the other. It may form a figure of ugliness or beauty to which there is no corresponding fact. With these we may be amused, or we may be exalted above ourselves and above the earth. These fancies will present themselves spontaneously, or we call them up by an

act of will. If reality has its solid blessings, so has ideality its pleasing fancies. We should profitably retain and cherish both. But we should always distinguish between them.

The prevalent philosophy in the present day is that of Kant ; and this in all countries, European and American, in which philosophy is valued. I wish it to be understood that I look on Kant as one of our great thinkers. There never can come a time when certain truths of Kant and the German philosophy are to be regarded as superseded. But Kant was guilty of one great oversight. He did not start with Reality in his primitive assumptions. While we cannot dispense with him, the crisis has come in which the Critical Philosophy should be critically examined, when it will turn out that its supremacy should be set aside.

Kantians of all descriptions are forever referring to space and time as forms of sense. I do not say that too much importance has been attached to space and time, while light has been thrown upon them by these discussions. But along with these forms there should have been assumed Reality in the things made known to us. Reality is not an end to be gained after a process or by a process, but is a means to an end. We are to begin with Reality and carry it on with us throughout with that mother's kiss, with that nurse's lap, and it should run on throughout the whole life.

There is admirable system in the Categories and in the Ideas with which Kant follows up his Forms of Sense ; and in them Reality is not to be regarded as superseded or set aside. But if we have not Reality throughout, the foundation is insecure ; and hence the vacillations through which the German philosophy has passed, and which are not to be arrested till Reality has its place to stay the whole.

Kant began with *phenomena*. But the phrase has two senses. In ordinary science it means a fact to be explained that is referred to its law. Or it may retain its Greek meaning and signify appearance to be explained. It is in this sense that Kant uses the phrase. With these appearances he starts, and from these he never could derive and infer any real object without having in the conclusion what was not in the premises. He should have begun with realities as made known by the consciousness and the senses. Only thus can we have a true philosophy with a well-laid superstructure. A philosophy which does not thus begin with Reality must always have something insecure in its foundation.

Hitherto America has had no special philosophy as the ancient Greeks had, as the Scotch have had and the Germans have had. But there is a philosophy lying before it, and it should appropriate it and call it its own—an advance beyond Locke, beyond the Scottish school—the American philosophy. This would be in thorough accordance with the American character, which claims to be so practical.

The change from the speculative to this thoroughly realistic philosophy

would not be unlike that from the European monarchies to the American republics.

REALISM AND RELIGION.

The Realistic view as true is the one most favorable to religion, as it proceeds on facts, and not phenomena in the sense of appearances. Thus when it says (Rom. i. 20): "For the invisible things of God from the creation of the world are clearly seen, being understood by the things that are made, even his eternal power and Godhead," where both "the invisible things of God" and "the things that are made" are facts and not mere phenomena. A like affirmation may be made of such passages as these: "Rejoice with them that do rejoice, and weep with them that weep." All such passages refer to facts and not to vague appearances, and carry with them our convictions and our confidence.

In Germany they follow Kant, and regard what they discern, and consequently what is revealed to us, as in Scripture, as phenomena—that is, as appearances. The view which they take is, in consequence, pliable and insecure, first in their philosophy, and then in their theology as swayed by their philosophy. These views, fermenting in Germany, come over into Great Britain and America, and trouble our students and our theology.

DISCUSSION.

DR. HARRIS indorsed the paper read by Dr. McCosh. Kant made an error in the high order of reality; said that time and space had no objective reality; he makes them subjective only.

PROFESSOR ORMOND followed, justifying the place of reality in philosophy. Philosophy leads us to the realization of God.

DR. LAWS could not find the Absolute *à*side from its attributes. Pyrrhon and Hume are the advocates of the doctrine that every phenomenon is illusory. We must know what reality is, before we can defend it. Immediacy is necessary to the comprehension of reality. We have a direct knowledge of distant matter only by the perception of the *ego*; hence, by inference. The mistaking of abstract for real space has been one of the misleading ideas of philosophy.

DR. BOARDMAN said in part: "We must assume the reality of mind and matter and of time and space as the dictate of the intuitions. The soul spontaneously affirms the reality of mind and matter by the constitution which it has received from its Creator. These affirmations are primary, self-evident, necessary, and of course universal. If they are not true, the benevolence and veracity of the Creator are impeached, for He has made the human mind to affirm their truth. The mind cannot be more sure of any knowledge than it is of these intuitions."

DR. HAYES said that we are not conscious of outside realities; only know our own consciousness.

MRS. MAYNARD: We have no immediate knowledge of matter.

CAN PSYCHOLOGY BE FOUNDED UPON THE STUDY OF
CONSCIOUSNESS ALONE, OR IS PHYSIOLOGY NEEDED
FOR THE PURPOSE?

BY PROFESSOR JOSIAH ROYCE, OF HARVARD UNIVERSITY,
CAMBRIDGE, MASS.

I.

THE importance for psychology of the study of the physical aspect of man's nature is, I insist, no longer a matter of doubtful question. We can, indeed, very usefully ask ourselves the reflective, the philosophical question, *Why* has the study of psychology come to involve a study of the physical aspect of man's nature? Reflective inquiry into the meaning of known facts is never out of place. But it would be vain to doubt, in view of these known facts, that the further advances of psychology will largely depend upon the advances of a number of allied scientific undertakings, amongst which the study of the functions of the nervous system, in the widest sense of the term *function*, will necessarily hold a very important place. A division of scientific labor is indeed indispensable.

The psychologist proper will never be, in his undertakings, either merely a psychologist, or, on the other hand, a worker at home in all parts of the physiologist's realm. The physiologist will far transcend the student of psychology in one direction, since the former will be interested in the whole range of the physiological functions; the student of psychology will far transcend the physiologist in another direction, since, as psychologist, he will take interest in the functions of the nervous system only in so far as they run parallel to the mental processes, whilst the physiologist, as such, will have only a subordinate interest in the latter. Thus the two doctrines will indeed never coalesce. Nor will either science ever become part of the other.

Auguste Comte was certainly wrong in declaring that mental science would properly be definable as identical with cerebral physiology. But the whole matter is not a question of identity or of subordination, but of community and of coöperation. Certain regions of nervous physiology will always be common territory for both sciences—will always be as important to the psychologist as to the physiologist. The latter student will view the facts in question, in these regions of biology, as a sub-class of the facts of the biological processes in general. The former (the psychologist) will study the same facts as embodying a highly significant expression of the processes and the laws of mental life. What is sure is that the psychologist, as his doctrine grows, will never get on without the study of these types of physical facts. This, I insist, is already decisively indicated to us by the whole course of recent investigation.

Our main question, in so far as it is a question of real doubt, relates to

the philosophical definition of the reason, and consequently of the limits of this dependence of the psychologist upon the study of the physical aspect of man's nature. I shall venture, then, to discuss that aspect of the problem assigned to me—that aspect, I repeat, which alone seems to me to be, in the present state of knowledge, a matter of serious philosophical doubt—by first slightly altering the statement of the issue as announced to me in the wording of the assigned topic. “Why and to what extent is psychology forced to study the physical life of man in addition to a study of consciousness in itself?” For, after all, a mere repetition of the known commonplaces of recent inquiry could not, in the presence of this Congress, prove enlightening. That an answer to the question as I now word it involves a sufficient answer, for our present purposes, to the question as stated in the programme of the Congress, will appear, as I hope, in the sequel.

II.

Human knowledge, as it tries to get itself organized into the form of science, takes two different and, on the whole, pretty strongly contrasted shapes, whose relations, indeed, are of the most intimate, but whose distinction, when once it is defined, is none the less obvious. Our knowledge, namely, as it develops, shows itself either as what may be called reflective knowledge, or as what, in a very wide sense of the word, may be called descriptive knowledge. Of an attempt at organized reflective knowledge, general philosophy is the typical example. Of highly developed descriptive knowledge, analytical mechanics may be instanced as a classical representative. The goal of reflective knowledge is a completed metaphysic and ethic. The goal of descriptive knowledge is a completed natural science. Neither goal can be completely attained in finite time by beings situated as we men are; both goals must be regarded as in some measure approachable, by every rational inquirer.

We actually can take no step in thought, under human conditions, without reflection; we can as little do our mental work without an effort to describe what we call the nature of external reality. Philosophy is an effort toward a consistent and thorough-going reflection upon the presuppositions of life and of thought. But every man is unconsciously a philosopher from the moment he begins, as every rational being does, to reflect. Natural science is organized knowledge about the external world. But every man, whether he is conscious of the fact or not, actually begins the study of natural science from the moment he begins to observe. And so the inevitable presupposition of our conscious life is that both sorts of knowledge are possible, and, in us men, are progressively perfectible. As a fact, as I have just said, both sorts of knowledge go together, and are never, except by abstraction, to be divorced from one another, although the abstraction which notes their actual contrast, and which organizes

them into seemingly separate systems of knowledge, is indeed useful and inevitable.

In studying philosophy one reflects, but still reflects concerning what the world of facts, which is the object of descriptive science, has suggested to one's mind. So the philosopher, like the student of natural truth, must have his descriptive science of facts in mind. Only he describes in order that he may thereby the more wisely reflect—*i.e.*, he studies facts to find out, if possible, their significance. On the other hand, in studying natural science, one describes—that is, one notes, classifies, and brings into orderly relation masses of facts. But as one does this one must, indeed, continually reflect as one goes upon the meaning of one's own thoughts; for without such inner considerateness outer observation would come to nothing. Yet here, while reflective and descriptive knowledge are once more combined, it is now the reflection which serves as a hand-maid to the descriptive process. One is considerate, in order that one may get the facts in hand. Both natural science and philosophy, therefore, unite reflective with descriptive knowledge, but in sharply contrasting ways. Natural science reflects only in order that it may describe the facts of the world. Philosophy describes the outer world only as a means toward the end of reflecting upon the meaning of truth. And so, once more, despite the actually inseparable connection of reflective and descriptive knowledge, we have a right to say, as we just said, that philosophy is the embodiment of reflective, natural science, as such, of descriptive knowledge.

To come still a little nearer to our present distinction. I reflect when I ask myself the question, *What do I mean* by this my thought, my belief, my intent, my plan, my passion, my life, my insight, my world? Whatever is for my consciousness may as such be made the topic of reflective insight; and, conversely, in so far as I reflect, I regard the truth in so far as it is just truth for consciousness, and, in fact, in so far as it is a truth for *my* consciousness, and not in so far as it is truth beyond my consciousness. The world of self-consciousness, as such, is the world of reflection; and, conversely, I can reflect only upon what belongs to the world of self-consciousness as such.

Logic is an excellent example of a department of reflective knowledge. Become fully conscious of what you mean when you think that *all men are mortal*, and you reflectively see that you can otherwise embody the same meaning by saying that *no immortals are men*. For reflection, then, self-consciousness is the necessary and sufficient condition. And each of us reflects only at home—within what he regards as his own hidden and solitary finite selfhood. Reflection, as such, can be conveyed in finished form to nobody else. Nobody can observe from without a reflective truth.

On the other hand, descriptive truth, as such, is definable as the truth which can be verified by many observers, either successively or together.

Description is the setting forth of the nature of facts in so far forth as all observers, apart from their individual reflections, give the same account of these facts. The world of reflection is the world for me. The world of description is the world for us. When I describe facts I lay aside for the time, as far as possible, the interfering constructive tendencies of my individual reflection. I care not how things are for *me*, unless they are also so for *you*. The external world is definable as the truth that finite beings explicitly share in common, and that they know only so far as they *do* share it in common. Destroy all finite beings save one, or cut off all communication among finite beings, and you do not touch, for the insight of the survivor or of the isolated beings, whatever reflective truth happens to be known, nor do you exclude the possibility of further reflective progress. But what you then do destroy is the basis for any further real definition of a knowledge of external truth, of physical fact, as such. For, I repeat, description of facts is essentially a social process. The external world of fact is definable as the world that the people tell about, and as the world that, in the end, they tend, all of them, to describe in the same way.

Complete reflective knowledge I should then get if I could grow up to full self-consciousness. Complete descriptive knowledge I should get if I could learn what would be common to the experiences of all possible observers of the truths that are themselves common objects for all finite selves. *Think for yourself* is the maxim of reflective knowledge. *Compare observations, describe, and verify*—this is the maxim of descriptive knowledge. The multitude of observers forms the presupposition of descriptive science, and the external truth is what, in the end, proves to be the ideally common object for them all. The single self-consciousness is the presupposition of reflective knowledge, and the truth is, in the end, what this self-consciousness becomes aware of for itself.

Such is the bare outline of the contrast between two forms of knowledge which, from a higher point of view than the human, may, and in my opinion *must*, once more coalesce, but which, from our human point of view, remain stubbornly distinct. Logic, ethics, metaphysics are primarily concerned with reflective truth, which for each of us must be worked out in self-consciousness. Physical science is concerned with a truth which can be reached only by a ceaselessly continued comparison of the accounts which endlessly numerous observers give of what has come to their conscious notice. That which in the long run they tend to describe in the same way, is here the humanly accessible truth.

III.

And now for psychology. Psychology is the natural science, or the attempted natural science, which endeavors, as it were, to describe the

life of the thinking being; in other words, to describe the life of the being who is himself the subject for whom the world of inner or reflective truth exists. Plainly such a science is, amongst sciences, in an anomalous position. Its topic is the life of a conscious—that is, of a reflective—being. Its method is that of trying, not like metaphysics or logic to reflect upon the meaning of his inner life, but, like physics, to describe him as he is known or knowable in a relatively external way. If he, the thinking subject, studies psychology, he is invited, without losing hold on his own existence as a conscious self, to see his life “as others see it,” to regard himself not only as the self-knowing, reflective being of the inner life, but also as the object of the social consciousness, of the common observation of his fellows.

How is this possible?

Only, so I answer, only in so far as there actually exists in the world of truth an intimate correlation between what self-consciousness reflectively discovers in the inner life of the individual, and what the common consciousness of mankind detects somewhere in the describable processes of the physical world. Were there no such correlation discoverable, there would be no psychology possible, but only metaphysical, logical, ethical reflection. There is no “science of the laws of mental life” possible for the subject himself alone, in his reflective isolation. For when he reflects alone he discovers truth indeed, but logical truth, ethical truth, metaphysical truth—never truth about the natural history of his own being. He must “see himself as others see him” before his inner life can become a topic for a natural science at all. Now he knows himself indeed, but not as an object for general observation, only as the subject of the inner life. And this inner life, again, has infinite meaning indeed, but, so far as the individual subject reflectively knows it, it conforms to no observable natural laws, because it is so far not observable from without, and is no object of the common human experience at all. On the other hand his fellows know, not the subject of his inner life at all, but a complex phenomenon called his bodily functions, which are a proper topic for physiological knowledge. How then, I once more ask, is a psychology, a science of the subject in so far as he can be treated as if he were also an object for the common observation of his fellows—how is such a science conceivable? How can there be a descriptive knowledge of the life of the very subject of reflective knowledge? And I answer once more: Only by virtue of a correlation, which experience indeed shows to be real, but without which no psychological science would be *a priori* possible—only by a correlation which actually ties the whole inner life of the reflective being to the changing states of a describable physical process, only thus is a psychology conceivable. Apart from an embodiment, a manifestation of the inner life in a psychophysical process, there would be no psychology thinkable. For only thus, in a two-fold process, could we have in the

world of truth a life that, seen from within, is the life of a self, and that at the same time can, in one of its aspects, be seen from without.

This necessity for a correlation such as shall unite the world of reflective insight with the world of descriptive knowledge, such as shall make the man who knows himself (but not from the point of view of natural science) also, in another aspect, a being who can be an object for others—this necessity is, I insist, a condition prior for any psychology. That the correlation in question is given us in case of the nervous system is a matter of experience. As a fact, furthermore, it is by the pathological study of defective nervous functions in case of disease, by the comparative study of the nervous functions in man and the animals, and by the experimental study of complex nervous functions in the healthy man, that we have of late come for the first time to have a developed notion of what the future science of psychophysics is to be. And I have merely insisted, in the foregoing paper, upon the thought that if there is ever to be any knowledge of the inner life except such as reflective philosophy has attempted, that knowledge must necessarily take the form of psychophysics. And that such a science may come to pass, every student and lover of human nature in its natural—*i.e.*, in its socially accessible—aspects must needs devoutly hope.

DISCUSSION.

PROFESSOR ORMOND: I wish to express my high appreciation of Professor Royce's paper. It is characteristically able and clear. It seems to me, however, that he makes the distinction between the spheres of description and reflection too absolute. We are in danger of having our universe cleft into two incommunicable parts. Besides, the distinction tends to isolate the individual consciousness so far as it is an organ of reflection. My own preference is to regard the distinction as merely relative. Consciousness is the organ of both, and it develops its descriptive and reflective categories in a process which is continuous. I do not think that we can regard our categories of reflection as being any less objective or universal than our categories of description. It is one world that presents itself to our consciousness, but in the order of knowledge the material and descriptive is *first*, and then the spiritual. The basis of this duality of categories must, I think, be sought in the constitution of the soul itself.

DR. BOARDMAN complimented the paper highly, but dissented from the belief that psychology needs physiology as a basis. He remarked: "Have Plato and Aristotle done nothing in psychology? We all greatly value the contributions of modern physiology to psychology. All the sciences constitute one sisterhood. Each contributes to the advantage of all. Especially has neurology brought a most acceptable offering. But it is possible greatly to exaggerate the value of the additions to our knowledge of the soul thence derived. Ancient philosophy, exploring chiefly consciousness, made vast acquisitions and searched many of the deepest foundations of knowledge."

DR. SHOREY held that the new psychology has not yet shown results that render it worthy of usurping the place of the old.

DR. MCCOSH believed in pure mental science and pure physical science; that each can throw light upon the other, but that, so far, investigation had not shown a close connection between them.

THE SOUL AS THE BASAL CONCEPT OF RATIONAL PSYCHOLOGY.

BY PROFESSOR G. T. ORMOND, OF PRINCETON UNIVERSITY.

PART I.—PSYCHOLOGY AND THE POSTULATE OF THE SOUL.

IN modern psychology the question of the relation of the idea of the soul as a permanent subject of conscious experience, to the problems of psychic science, has been variously answered. Among empirical psychologists it is common to take the position that except as a species of working hypothesis the idea of a soul has no value for psychology. In dealing with mental phenomena it is conceded that there is a need for the assumption of some unitary principle as a thread to hold particulars together, but beyond this it is said psychology has no more concern with a soul in man than physics has with a soul in nature. Without any disposition to deny that it may be possible, within certain limits, to ignore the problem of the soul without serious detriment, we are concerned here to maintain that a point will be reached where the *laissez faire* principle must break down. In their initial stages all sciences may confine themselves to empirical generalization from phenomena, and in these processes it may not be necessary to look deeper than the facts and relations of the external series. But every science that progresses far enough inevitably reaches a point where it ceases to be purely empirical and tends to become rational. Reflection will show that this transition is made when the science in question begins to transcend the phenomenal and to achieve an idea of the *nature* that underlies the class of facts with which it deals.

Most obviously does the law of which we are speaking apply to psychology. In consciousness not only do we come upon phenomena, but we are also conscious of the bond that holds them together. Consciousness is aware of the unitary principle at its basis, and cannot, therefore, dismiss it as a mere assumption.

Now while the unitary principle forces recognition, it has been thought that all the requirements of psychology will be met by simply postulating this unitary principle while dismissing all attempts to determine its nature. The character of our consciousness, however, renders all such compromises nugatory. Consciousness bears witness not merely to some unitary principle, but to one of a specific character; namely, the idea of self. The unity of consciousness inevitably ripens into the conscious idea of self as a subject and bearer of the conscious life. The problem here, then, is not that of an abstract unitary principle, but rather that of a concrete subject and bearer of conscious experience.

Now, there are certain predicates which normally and necessarily attach themselves to this subject. Among these are *unity*, *personality*,

individuality, and *persistent identity*. Psychology finds itself unable to conceive these attributes as being predicable of a mere flowing stream or series of conscious states. Professor James, who treats the question with much more than the ordinary insight, only escapes the difficulties of the "serial" theory by postulating a dualism between the objective flowing stream and a passing subjective "thought" which assumes all the characteristic functions of a permanent and transcendent *ego*; so that from James' point of view there is not merely a stream of states, but a virtually persistent self that owns the stream and can contemplate it forward and backward. James, it is true, thinks he has discovered a substitute for the soul in his perishing thought which knows itself and the stream and passes on its possessions as a heritage to the thought that reigns after it has been gathered to its fathers. But the old-fashioned soul is dispensed with in appearance only, and not in reality. For when we sum up the duties which this thought is called on to perform, we find it clothed in all the trappings and prerogatives of a full-fledged and richly dowered soul. James' "passing thought" is just the soul itself represented in the form of one of its manifestations; for it is evident that the soul does think all the things that this "thought" thinks, and that in addition it supplies a *reason*, where James can supply none, why "the successive passing thoughts should inherit each other's possessions."

The nature of the demand for the soul as basal concept in psychology may be indicated as follows: An organic self-consciousness like man's requires not simply a principle of abstract unity, but a bearer of concrete attributes like personality and individuality. In short, the bearer of self-consciousness must be a *being* and not a mere abstract force or principle. For selfhood, which includes the maintenance of personality and individuality of the conscious subject, can only exist, as Lotze subtly argues, in a reality that has the capacity of *internal reaction* or self-assertion against that which would impair its individuality; and in this capacity we find the germ out of which the idea of the soul rationally develops. Consciousness presents a trinity of manifestations—emotional, volitional, and intellectual. It also reveals a unitary principle which, as we have seen, can be adequately conceived only in the idea of a subject. Now if we refer consciousness back to the soul as its spring, we will be able to connect its threefold manifestation with that capacity for internal reaction which we have seen to be essential to the soul's life. We thus arrive at the notion of the soul as the spring of consciousness and the subject of a trinity of manifestations—emotion, volition, and intellection. The manifestations as a whole are to be conceived in one sense after Herbart, as the efforts of the soul toward *self-preservation and self-maintenance*; in another and higher sense, as the efforts of the soul toward the self-realization of its own inherent activity. We arrive, then, at the notion of the bearer of consciousness as a self-maintaining being which contains a syn-

thesis of intelligence, emotion, and will. This synthesis expresses itself in personal manifestations, and it is *contained* in the self-maintaining individuality of the concrete subject of experience.

The idea of the soul that then arises is that of a real bearer of the whole concrete life of man. No abstract principle whatever is an adequate basis for personality and individuality. Man cannot regard himself as a mere phenomenon, for his own nature forces on him the distinction between phenomenon and ground, and this reveals to him the metaphysical quality of his being. The only postulate that satisfies the whole demand of the case is that of the soul as the metaphysical ground and subject of the whole concrete manifestation of our conscious life.

The *means* by which the soul reveals itself to our apprehension cannot be elaborated here. They fall into two categories—the *intuitive* and the *reflective*. The *intuitive* embrace the immediate self-revelations, and may be grouped under three heads: (1) Self-feeling. (2) Self-perception. (3) Self-ideation. Self-feeling is the indefinite apprehension of self that accompanies the simple exercises of sense. Self-perception is the more definite self-reaction that accompanies the perception of objects in which, as McCosh says, the soul is aware of itself in a particular state. The intuitive phase of self-ideation is the immediate consciousness of our unitary personality which accompanies the higher exercises of our intelligence. It is the immediate aspect of the rational self-consciousness.

The reflective knowledge of the soul arises out of the indirect study of its manifestations. It emerges when we reflect upon our conscious life as a whole and seek its rational explanation. Through this reflection we construct from the data of intuition that notion of the soul, as the metaphysical ground and subject of experience, which, as we have maintained, must constitute the basal concept of psychology in its rational stage.

PART II.—A THEORY OF THE SOUL AND ITS IMPLICATIONS.

The idea of the soul as developed in the first part of this discussion leaves undetermined its essential relations and its type. The main problems as to the soul's relations are (1) the connection of the material and spiritual in the sphere of the soul-life, and (2) the dependence of the soul on some absolute ground of its existence. The first problem can be solved only by achieving some definite conception of the psychic constitution, and this will in turn assist us in conceiving the soul's relation to the absolute ground. The dependence of the soul on the corporeal is a truth that all the facts of experience concur to demonstrate. Physiology shows that the physical is the basis, or at least a necessary condition, of the psychic. This result has on the one hand been materialistically construed to signify that the psychic has no distinctive reality of its own, but is a mere phenomenon of matter. Spiritualism, on the other hand, in order to escape materialism, has felt obliged, with Berkeley, to virtually deny the

reality of the material by reducing it to a mere psychic phenomenon. Now, I believe in a spiritualistic metaphysics as supplying the only adequate theory of the ultimate reality of things. But it seems to me that the essential requirements of spiritualism are more completely satisfied by the following postulates, which cannot be developed here, than by any purely monistic theory, whether materialistic or spiritualistic :

(1) That the absolute ground of existence is a spiritual nature in which the dualism between the material and spiritual, that *dominates* the relative sphere, lapses.

(2) That in the relative, which is to be conceived as resting upon and generated from the absolute, a dualism emerges between matter and spirit, and that the order of development is first the *material* and then the *spiritual*.

(3) That in the relative sphere, therefore, there is a relative dependence of the spiritual upon the material, matter being everywhere an indispensable ground of spiritual manifestation.

Now, while we reject materialism which construes the dependence of spirit on matter in an absolute sense, and thus raises matter to the position of the absolute, we cannot, on the other hand, regard the idea of the soul as a purely spiritual monad as satisfactory. We reject it here mainly on two grounds : (1) Because it virtually denies the relative dependence of the spiritual upon the material and reduces matter to a mere psychic phenomenon ; (2) because it treats the relation of the soul to the material in a purely external and therefore unsatisfactory manner.

We must, it seems to me, in order to really solve the psychic problem, conceive the soul not as a spiritual monad, but as a duad. The spring of the soul's unitary and conscious life must, of course, be regarded as a spiritual principle. But there is no pure spiritual manifestation in the relative sphere, but everywhere the conscious life of the soul is held in temporal and mechanical categories. It falls into a series, follows the temporal order, and only escapes for an instant from its empirical and temporal self when it retires into the citadel of what the Kantians call the "pure *ego*."

This close dependence on the material cannot be adequately explained by representing the soul as a self-contained spiritual individual which reacts externally upon a material substance outside of itself. Rather we must use our postulate of a spiritualistic absolute to *deny* the Cartesian dualism which raises an absolute barrier between matter and spirit, and to assert that the distinction between them is only relative, while they are one in the absolute.

This will enable us to conceive the soul as a synthesis of material and spiritual principles. The real nexus between spirit and matter must be sought in the sphere of the atoms, and the psychic duad may be represented as arising out of the nuptials which join a material atom and a

spiritual principle in a bond which no force but that of the absolute can part asunder.

This duad is to be conceived as the atomic nucleus of the soul's life. Out of it, by virtue of its spiritual principle, spring those attributes which have been dealt with in the first part of this discussion. Out of it, by virtue of the psychic synthesis of the material and spiritual, springs the inseparable connection of the life of the soul with the material, its immersion in the forms and categories of space and time and sense.

Deductions from the Duality of the Soul's Constitution.

From the dual idea of the soul as developed above, a number of deductions may be made. We shall notice only four. In the first place, it leads (1) to a conception of the law of the soul's progress or development which is of the highest pedagogical importance. Assuming that, in the relative sphere to which our life belongs, the material is the basis of the spiritual, and that the soul contains a synthesis of material and spiritual principles, it follows that the progress of the soul-life will be from a stage in which the material dominates the life, to a goal in which the spiritual shall dominate and transform the material. This will be the common law in the spheres of the mental, moral, and æsthetico-religious. In each the psyche will pass ideally through three stages, which we may designate the *sensuous*, the *sensatio-rational*, and the *rational*. But underlying this *trinity* of stages in the soul's evolution will rest, as the motive-spring out of which it emerges, the duality of the soul's constitution, giving rise to an everlasting struggle of the spiritual, which contains all the ideal norms, to transform the material and to lift the soul to higher stages of rational and spiritual life.

(2) *The Knowledge of the Soul*.—In this dual conception of the soul may be found a ground of reconciliation between apparently inconsistent processes of knowledge. In the sphere of cognition we find a duality. The soul seems to construct its world out of its own resources, and on this *subjective idealism* founds. But the objective character of its apprehensions is *just as coercive*, and it cannot escape the conviction that its cognitions are perceptions of real objects. The key to the dilemma is to be found in the fact that the material principle in the soul supplies it with categories that are common to it and to its objective environment. The world it apprehends is therefore a *real world*, objective to itself, although the process by which it apprehends it is subjective. Again, the complete method of science is dual—a synthesis of empirical and rational processes which play into each other's hands. This empirico-rational interplay can be rationally grounded only in a dual conception of the soul's nature. For if the soul were monal in its constitution, the process of knowledge ought also to be monal. But it is essentially *dual*—a fact that implies a dual constitution of the subject of knowledge.

(3) *The Freedom of the Soul.*—The dual idea of the soul has also a bearing on the problem of *freedom*. Empirical psychology can go so far as to identify voluntary choice with self-determination in view of alternatives, among which the choice is the exercise of a selective function. Now self-determination is in form free determination. But what seems to be freedom lapses into a species of necessity in view of the fact that the life of the soul belongs to the temporal series in which preceding choices act as factors in determining choices that follow. A man cannot escape his empirical character, which holds him to the series and its law. Now, were the soul a monal substance there would be no help for this. But since it is dual, and its history is to be conceived as a struggle of a spiritual principle to overcome and transform the material, freedom may be represented as the law of the spiritual, and may be teleologically conceived as the end and goal of the whole spiritual struggle of the individual. We have an intimation of what this means, in conscience, which imposes its ethical standard as an ideal law upon the actual and empirical, and we have only to enlarge our conception so as to include the whole rational and spiritual nature of man in the *ideal* sphere in order to see how the achievement of freedom becomes the great and all-absorbing business of the whole life of man.

(4) *The Destiny of the Soul.*—What Lotze calls considerations of value—that is, reasons arising from our estimates of the spiritual *worth* of things—have always borne strongly, especially when reinforced by the faith and sentiments of religion, in favor of the postulate of immortality; yet science has never been able to clearly conceive the possibility of the soul's survival of the body. The inductions of physiology seem to bear so strongly in favor of the absolute dependence of psychic phenomena on the body as to virtually overcome and neutralize in advance all considerations of value. It seems to me, however, that much of the force of this negative implication has been due to the fact that no distinct conception of any type of soul-life apart from the bodily organism has seemed possible. This want is supplied by the dual concept of the psyche developed here. It not only gives a definite concept of the psyche, analogous to the atomic conception of matter, but it also supplies a basis for a distinction between what we may call the *essential* and the modal conditions of the soul's life. The essential conditions rest in the synthesis of the psychic atom and its dependence on the absolute, while that rolled-up neurotic knot which we call our brain is to be regarded as a modal condition of the present form of the soul's manifested life. Once distinguish between the atomic constitution of the soul and the organized material conditions in which it manifests its life, and the scientific presumption will, I think, be reversed. For I see no reason why it should not be intrinsically as difficult to conceive the destruction of the soul atom as it is conceded to be to conceive the destruction of an atom of matter. The dual type enables us also to con-

ceive a possible mode of future existence. For if the soul carry its dual constitution with it, not only is it secured from the danger of losing itself in the absolute, but it has the nucleus of organization within itself, and may go on everlastingly weaving for itself temporal garments for its phenomenal life. We may possibly find here a philosophic basis for the doctrine of a resurrection of the body. At all events the field will be cleared for the considerations of value to assert their full power over the thoughts and convictions of men.

DISCUSSION.

DR. LAWS dissented from the views of the paper. A principle underlies. The human mind is incapable of anything apart from its phenomena or its appearances. Two groups of facts come within apprehension of consciousness. In the first group every object may be quantitatively determined; in the second, there is no object which may be quantitatively determined. Dissented from the amalgamation of the two groups. Our knowledge of God is by inference and *not by intuition*. The soul is a substantial entity.

DR. LUMMIS: A satisfactory definition of the soul is conscious entity; of matter, extended entity. Things are cognized concretely; not motion, but moving things. There is no such thing as unconsciousness; an unconscious spirit is unthinkable. Phenomena exist only when present with intelligence.

PRESIDENT BOARDMAN: As to the first part of the learned essay. Its able argument for the reality of the soul in distinction from matter was obviously conclusive. Such reality, the very soul itself, is a direct object of consciousness. Its existence is a primitive intuition. If we do not know our mental existence we know nothing. Self-existence is the fundamental intuition. No thought is possible without this underlying ground. Not activities or states alone, but the soul itself, is directly known in all self-consciousness. As to the second part of the essay, there might be much more question. The synthesis of mind and body proposed, said to be derived in some way from the conception of the Logos, was not clear. That a profound idea was involved in the conception of the Logos, whether as embodied, tangible, concrete thought, or still higher as designating the incarnate Godhead, was obvious. But it seemed to the speaker unphilosophical to blend, confound, and mix mind and matter in the way which seemed to be proposed in the essay. It was an intermarriage, an amalgamation unknown to science. No such *tertium quid*, which is neither mind nor matter, could in the nature of things exist. It was contrary to consciousness, which directly affirms the existence of both, and their diversity, wide apart as the poles of existence. The essay affirmed the necessity of such an hypothesis to bridge over the chasm between mind and matter, and so explain their interaction one upon the other. The speaker felt no such necessity. He believed such interaction of matter and mind to be an ultimate fact, and, like all other ultimate facts, to need no further explanation. To go beyond the ultimate is a contradiction in terms.

DR. LEWIS: I ask Professor Ormond if I am correct in the saying that the "soul is a unitary principle which holds together threads of ideas"; or, in other words, that the soul brings into oneness successive series of ideational experiences? [*Answer*.—Not exactly; well, yes, practically.] Knowledge in the main is the product of sense-impression, and it is probable that of our ideas but a very few are from any other source. The senses are not referred to in the paper as being of value, singly or conjointly, in the process of unifying successive series of ideas.

That this is an oversight is the more probable when we consider that one sense or end-organ is not generally sufficient to gather and send over its nerve to the idea-making region of the cerebral cortex a sufficiently forceful impression of an object to elaborate therefrom a finished idea. This is more satisfactorily accomplished when neural energy arrives in the cortical centers from two or more of the senses. To hold that this neural

energy or successive series of ideational processes is changed into comprehended ideas by that being denominated the soul, is more arbitrary than to assume that we have a very proficient unitary principle, which Professor Ormond calls the soul, in the combined action of the senses, which is presumptively an emanation from the individual sense-energies.

The soul, or that mysterious something which changes an unconscious idea into a conscious one, and is continuously acting upon ideas in all sentient beings in series, to the end of bringing about a state of conscious experience, is problematical, hypothetical—yea, wholly inexplicable, save in the sense *sum total of neural energy proceeding from the special senses*. We have, when these unite their forces as changed by the gray matter, a conscious whole, a conscience—yes, if you please, a soul.

DR. BLACK expressed his surprise at the revival of the doctrine of duality by the most conservative university (Princeton) of this country. Laws of matter are irreversible. If the thought of the essay were carried out to its ultimate issues it would concede the immortality of the animal and vegetable world, a doctrine which the speaker was astonished to hear proceeding from Princeton.

DR. FOSTER : We are always confronted with a dualism which takes the form of a conflict between mind and matter. He suggested that there is a third ground or medium in which mind and matter originate. This third ground or matrix is thought, which is capable of thinking both matter and mind.

MR. SANDERS expressed the belief that we have extra senses besides "the five senses," but that they are now closed. The move of this age should be to open these closed senses.

THE THEORY OF THE FIRST PRINCIPLE IN THE ELEVENTH BOOK OF ARISTOTLE'S METAPHYSICS.

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THE eleventh book of Aristotle's *Metaphysics* is the most interesting and important part of the whole work. In the closing books of the *Metaphysics*, Aristotle sums up and brings to a focus the previous speculations of his physics and metaphysics, in what is, properly speaking, his ontology. In the tenth book he reasons of that kind of imperfect being, which is called being in a certain relative sense. It is being, inasmuch as it presents an object of apprehension and thought, is something thinkable, and yet it is not anything which subsists in and by itself; it is only an appurtenance, a relation, or even a merely negative notion, such as "the not white" or "the not straight"; which is to be referred to that which is being in the perfectly real sense. This perfect being, having its concrete, subsisting essence *in itself*, and when complete *by itself*, is substance.

In the eleventh book Aristotle proposes his theory of substance as that which is primary and fundamental in ontology. His ultimate object is to discover its first principles and causes, to determine its reason of being and its origin. He sets out, therefore, to trace back all modes, qualities, movements, all essence and nature, all form and matter, all relations and order, to the first principle and cause, and to the final cause, from

which substantial being and its consequences depend, in respect to actual existence, energy, and every kind of movement.

The science which embraces all these topics—viz.: ontology or general metaphysics—is called by Aristotle wisdom, primal philosophy. It is the science of the deepest and universal reasons which are the underlying and dominant principles of all the particular sciences. Aristotle finds that the preceding philosophers had recognized yet failed to solve the great problem of ontology, viz.: the first principle and cause of all being, especially of substance, subsisting under specific forms, and also underlying all phenomena. The question, What, whence, and wherefore is the force energizing in the universe multifariously, and giving the spring to all its movements from some beginning or from eternity? remained in Aristotle's view unanswered. If it is unanswerable, then metaphysics is an impossible science. Aristotle insists that it is in the highest sense science, and that its principal part is the theory of substance. He makes a threefold division of substance—into sensible substance which is corruptible, sensible substance which is incorruptible and subject only to the change of local motion, and substance which is immovable, unchangeable, free from all contingency and potentiality. Corruptible substances are subject to transmutations in respect to their quiddity, quality, quantity, and location. There is, therefore, in them an element of contingency, a capacity which is not in itself a sufficient reason of coming into act; a potency or potentiality which is a kind of receptacle of substantial forms, a kind of term for an active power, a *first matter*, as it is called, and which is a first element and constitutive principle of every essence and nature, except that of God. The first matter of incorruptible substances—viz.: of the heavens and their spheres—is, however, different from the matter of the substances whose primary and simple forms were supposed to be earth, air, fire, and water; and hence it is often called in Aristotelian physics by the name of "Fifth Matter."

The next step in the argument of Aristotle is to the consideration of the immovable being as the principle and cause of all motion in the universe—i.e., of all transmutations and every kind of transition from potentiality into act, of capacity into energy. The argument is based on a principle which is found everywhere in Aristotle's metaphysics, that potential being can be reduced to act only by the application of motive power from a being already in act. Ontologically, act is prior to potency, and as an infinite series of received and transmitted movements has in it no sufficient reason of its energy, no ultimate principle and cause of motion, it is necessary to go back to a first mover. Evidently the *first* mover cannot have any prior principle and cause from which he receives any kind of being in act, any active power, any perfection. His essence is most perfect and most pure act and energy, without any mixture of potentiality, without any capacity for change into something better or

worse. He is unchangeable and immovable in his eternal and infinite plenitude of being.

Aristotle proceeds to prove that this supreme being whose essence is energy can have nothing material and corporeal in his nature. The only kind of being in the universe, depending from him which furnishes an analogical concept of his nature, is intelligence and will. He is the intelligible and the intelligent, the lovable and the loving, in his essence; and his life is beatitude in the contemplation with complacency of the best—that is, of his own being; the object of intellectual cognition, and of the loving complacency of the will. Subject and object in this most pure act are identical in a perfect, indivisible unity.

The question concerning the relation of the universe to the supreme being as its first mover, comes next. As Aristotle teaches that God rests immovably in himself in a most pure and perfect act of contemplation, so also he affirms that the universe is in a perpetual motion toward the same object of intelligence and love, but in different modes, according to the different natures of its various substances; rational beings consciously, the rest unconsciously. That is, Aristotle presents the idea of God as final cause most prominently. It is well known that many philosophers interpret him as denying or ignoring any exercise of intelligent and voluntary energy in God, as first efficient cause, either of the movement and order of the universe, or of its first being. In that case, the attractive force which is the first principle of all movement from potential into actual being must be both necessary and unconscious. Consequently, there can be no love of God toward the beings who depend from him, no providence over them, no relation of friendship between men and God, and no religion. Here, I conceive, lies the principal field of discussion. As it is the object of this paper merely to introduce this discussion, I will not engage in it. I will merely take the liberty of suggesting that it is important to discuss thoroughly three distinct topics:

First. What is explicitly affirmed and argued by Aristotle in respect to efficient causality in the supreme being.

Second. What is implicitly contained in his metaphysical and moral treatises.

Third. What is virtually contained in them—*i.e.*, deducible from his premises by reasoning, or, at least, capable of being proved to be not in contradiction to his principles and conclusions, but rather in harmony with them, and to be a further development of theodicy on his lines, and according to his methods. It is evident that so far as it can be fairly proved that the philosophy of Aristotle is in harmony with Christian natural theology, a great gain accrues to the cause of pure Christian theism. And it is needless to add that the study and elucidation of the works of the great Grecian sage are worthy of the best efforts of scholars.

DISCUSSION.

BISHOP KEANE : Aristotle means that God acts consciously. Considered the idea of the *tertium quid* being "thought," an absurdity.

DR. HARRIS agreed with Dr. Hewit's thesis. Aristotle's book was the foundation of scholasticism. God is a personal being ; hence man also, a personal being. Rational psychology reaches this point.

DR. FOSTER : The main question is whether God is a conscious being. It is true that thought thinks itself, and hence all things else. He did not agree with Bishop Keane that there was no antagonism between mind and matter.

DR. ORMOND : How does the manifestation of a perfect being as illustrated from the creation of the *purus actus* come to change into an imperfect being ?

SELF-ACTIVITY IN EDUCATION.

BY DR. J. G. SCHURMAN, PRESIDENT OF CORNELL UNIVERSITY.

I OBSERVE that in the history of psychology two views of the nature of mind have always prevailed. There is the sensationalist theory, and there is the rationalist theory. However named, the fundamental difference is between the conception of mind as active and the conception of mind as passive. In the one case the human spirit is regarded as a thing subject to the universal law of causation ; a thing of a peculiar nature, it is true, yet a thing taking its place without reserve or remainder in the world of knowable objects. That objects are known at all only through this intelligence is a fact whose significance is strangely overlooked. And it is this consideration that justifies our rejection of the conception of mind as merely another thing among the objects which make up the universe. It is opposed to these as the subject which knows them. It is not, therefore, to be described in metaphysics borrowed from the material world. It is not a machine, it is not an organism ; but it is spirit. And the mark by which it distinguishes itself from everything else is the self-activity, the absolutely unique self-activity, in which the life of mind or spirit essentially consists. Of this activity we are conscious alike in perception, recollection, thinking, and in volition.

It requires strenuous thinking to hold fast to the notion of mind as essential self-activity, even after the still greater initial difficulty of forming this notion has once been overcome. All objects may be conceived as effects ; but the subject which knows them, the human mind, is never an effect. Objects are dependent for their existence and attributes upon other objects, but mind is an independent and self-subsisting original. We form just views of the human spirit only when we think of it as

creative and self-creating. And of nothing else in the universe can these terms be predicated.

Now this conception of mind has fruitful consequences both for the theory and practice of education. In a paper, or rather in the draft of a paper, whose only object is to provoke discussion, I cannot pretend to enumerate all these consequences, much less to describe them in detail. All that can be attempted is to indicate some of the most obvious of them.

Firstly, then, this conception of mind as essential self-activity enables us to take a view at once just and inspiring of the real nature of education. Its ultimate object is not the communication of knowledge to the pupil—though this is obviously the proximate end—but the awakening, the energizing of the pupil's mind by contact with the knowledge imparted. In physiological language, knowledge is the food on which the intellect is nourished ; or, without analogy, the intellect realizes itself as intellect, passes from a mere capacity to an actuality of intellect, in and through the process of receiving, elaborating, and reacting upon the materials of instruction communicated by the teacher.

Secondly, this conception of his work is one calculated to stimulate the teacher and give him an exalted sense of the dignity of his vocation. The educator in training the minds of his pupils is enabling them to attain the highest goal of their existence. The true teacher is, as it were, a fellow-worker with the Creator.

Thirdly, the conception of mind as self-activity throws some light upon the problem of the proper materials of instruction. Those subjects are to be taught which are most provocative of mental activity. The test is indeed a very general one. But by means of it we can justify, for example, the teaching of arithmetic and languages. On the other hand, since only those subjects will prove provocative of mental activity which the pupil feels some interest in, we see at once how variety of interest renders it difficult, apart from the great fundamental similarities of all minds, to lay down a uniform curriculum of study.

Lastly, the conception of mind as self-activity, and of education as a process whereby this essential nature is developed from original potentiality, shows the shallowness of all short and easy roads to culture, science, and scholarship. There is no real education till the mind is stirred into life, till it takes up the material presented, makes it its own, and uses it as a factor in its own development. Perhaps the best test of such attainment is the ability to use what has been acquired. The presence of this utility is sure proof that the mind has grown by what it has fed on.

If these remarks lead to a discussion of this important subject here briefly described, they will have served the end for which they were designed.

DISCUSSION.

DR. HARRIS: Self-activity is one of the essential qualities of mind. The new school is trying to get rid of the idea of self-activity, and this is one of the prevailing faults of this school. The greatest writer on self-activity is Hegel, in the third book of his "Logic."

DR. ORMOND: The paper shows a theory of the connection of mind to education. It is right in saying that self-activity is the central category. We must, however, combine evolution with the idea of self-activity. Only thus can we get a correct theory of education. He had learned more psychology from his children than from Plato, Aristotle, and Hegel. The psychology of the child helps to interpret that of the philosophers. No theory of education should be founded upon an abstraction. First the lower categories; then a development through the middle up to the spiritual categories.

MISS CROZIER: Children are being over-educated. They should be let alone. When the child asks, "Who made God?" let him develop up to the point when he can understand, instead of trying to impregnate the mind of the child with our ideas.

DR. BOARDMAN: The self-activity of the soul is a matter of direct consciousness. It is a matter of fundamental characteristic of mind. The essay has incidentally spoken of the intellectual as the part of mind most susceptible of progress toward perfection. We believe that this honor should be accorded to the moral rather than the intellectual. The moral involves the intellectual; and in this function of mind, doubtless, self-activity has its highest field and makes its noblest progress.

DR. HARRIS: Self-activity is necessary in order to interpret the external world. In the analysis of causality it appears that *A* determines *B*. But before *A* can send an influence to *B* it must be active itself. Cause must be self-active.

WUNDT'S PSYCHOLOGY OF THE WILL.

BY PROFESSOR E. B. TITCHENER, OF CORNELL UNIVERSITY.

WUNDT is the founder of the new psychology. His views deserve our consideration for two reasons. Firstly and generally, because of the standing and authority of their promulgator. "Just in philosophy," said the late Croom Robertson, in a different connection, "where because of its supreme human interest anybody may claim to have a voice, is there most need for the . . . help of 'those who know.'" Secondly, and more specially, however, because of their frequent and continued misunderstanding. In many passages of his writings Wundt directly asserts that his position is that of empiricism. Consciousness is, for him, nothing more than the sum total of mental processes present (given to the individual) at a particular moment.* The word "processes" is important; the inner experience is in perpetual flux.† The datum of psychology is this momentary fusion of conscious processes (consciousness); its object is the elimination and determination of the mental elements, and the conceptual reconstruction of the concrete mind from them.‡

* *Phil. Stud.*, vi., p. 250. *Vorlesungen*, 2d ed., p. 252 ff.

† *Phys. Psych.*, i., 4th ed., p. 3.

‡ *Ethik*, 2d ed., p. 434.

If, then, we may trust the author's own account of his work, that work is certainly empirical. Yet we find Professor Muensterberg repeatedly representing the Wundtian apperception as a foreign power which arbitrarily invades the content of consciousness;* and Dr. Ziehen finds in Wundt's doctrine of the will a survival from the old faculty-theories, a return to the pre-Herbartian standpoint;† while the views which these two writers have propounded to the German public have been set before the English by Professor Bain‡ and Dr. Bastian.§

These, then, are the reasons which have led me to present to you a purely exegetical paper, rather than one which should be critical or constructive. We cannot criticise until we have understood; we should not construct without reference to the labors of those who laid the foundations of our science.

I.—THE CONATIVE ELEMENT, QUALITATIVELY REGARDED.¶

The datum of psychology is consciousness, as this term has been defined above. Its first problem is the determination of the number of the ultimate conscious elements, from the interaction—fusion and combination—of which we may build up this consciousness. We have seen that various writers posit variously one or two or three such elements. Our question here runs: Is conation a mental ultimate or a mental derivative?

If now, as we say by metaphor, we “look into” the mind—“introspect”—we find among the ideas which go to compose it at the moment a certain difference. (1) Some are clear, vivid; some indistinct, blurred. Retaining our visual metaphor, we may say that the former are situated at the conscious fixation-point, while the latter are scattered over the conscious field-of-vision—not in the least meaning to imply, by this language, that there is a “consciousness” outside of or beyond the ideas, which turns to them, and illuminates them, as the eye turns to the objects of the external world; but simply wishing to illustrate by a familiar analogy what is a striking fact to the beginner in introspection. (2) But not only are the “fixated” ideas more distinct and vivid than the rest; they are more unified, more firmly welded together. They constitute a whole, which is, comparatively speaking, permanent; the remaining ideas are detached, fleeting, unconnected. (3) Further, if we consider the indefinite ideas which lie outside of the conscious fixation-point, we find that they pass, and are succeeded by others, in a kind of independent panorama. We are not “interested” in them; we are passive, as they come or go.

* *Beiträge*, i., ii., iii., *passim*.

† *Leitfaden*, 1st ed., pp. iii., 118, etc. Cf. Wundt, in *Phil. Stud.*, vi., p. 17. Cf. G. E. Müller, in *Gött. gel. Anz.*, June, 1891, p. 429.

‡ *Mind*, 1887, p. 161 ff.

§ *Brain*, pt. lviii., p. 20.

¶ *Phys. Psych.*, ii., 3d ed., p. 235 ff. *Ethik*, 2d ed., p. 433 ff. *Phil. Stud.*, i., p. 337 ff. *System*, p. 380 ff. *Vorlesungen*, 2d ed., p. 253 ff. Külpe, *l. c.*, p. 427 ff.

Whereas, with every clear idea, every fixated idea, there is bound up the experience of internal activity, or activity of the self. These three observations are equally empirical. It is not a question of what we wish to find in consciousness, but of what we actually do find, when we examine it.

The fixation of ideas we term apperception; their entry into the conscious field-of-vision, perception. In other words, the distinct unified ideational mass, with its concomitant activity-experience, is an apperceived content; the loose and indistinct ideas are perceived contents. Note the conclusion. There is, given to introspection, an observable process of unifying activity—this process of apperception. But the properties of activity and unification are just those which attach to the concept of conation, and which do not belong to the notions of sensation and affection (pleasure and pain). We are justified, therefore, (1) in speaking of a special conative element, and (2) in regarding apperception as its quality—as that aspect of it by virtue of which it is elemental.

Three points of objection arise at once. (1) Despite the plea of empiricism, *do* we discover this internal activity by introspection? We find Dr. Ziehen saying to his student-hearers, in the course of his analysis of action: “Ich bitte Sie nun, durch Selbstbeobachtung zu bestaetigen, dass zwischen das Erinnerungsbild der gewollten Bewegung und die Empfindung der vollzogenen Bewegung sich in unsrem Bewusstsein nichts dazwischenschiebt.”* Dr. Ziehen should, as a professing psychologist, know that the use which he is making of introspection is a totally illegitimate use. Between the results of his observation and that of Wundt each one must finally decide for himself; only, let the decision be made with knowledge—*i.e.*, after a fair practice in the employment of this psychological method. (2) It may be urged that certainly not in every case of attentive observation *do* we experience this apperceptive activity. This objection simply says, as Dr. Külpe points out,† that not every apperceptive act is apperceived. Why should it be? Not every affection, not every sensation, is apperceived. (3) Is it not perhaps a logical error to coördinate “active” (as quality of will) with “pleasant” (as quality of affection) or “blue” (quality of sensation)? The term is so much more abstract. Here, again, the answer is given by Wundt in a reference to the facts. If we eliminate from conscious experience the “blues” and the “pleasants,” there remains just this singly-qualitative “active” process, which is not otherwise describable.‡

II.—THE CONDITIONS OF APPERCEPTION. §

Every apperceptive process—all conation—is conditioned. For convenience' sake, we distinguish apperception as (1) active and (2) passive. But

* *Leitfaden*, 1st ed., pp. 16, 17.

† Cf. Staude, in *Phil. Stud.*, i., p. 149 ff.

‡ *L. c.*, p. 431.

§ Wundt, *ll. cc.* Külpe, *l. c.*, p. 428, 429.

neither does "active" signify "unconditioned," nor do we intend by the distinction to mark off two separate qualities of will. The apperceptive act is passive when it is univocally determined—a loud sound "forces" our attention, as we say. It is active when it is multivocally determined—when different "motives" are at work, striving to determine it in different directions. The division is one of degree, not of kind; the criterion external, not internal.

The chief conditions of apperception may be briefly tabulated as follows :

(a) External.—(1) Relative adaptation of the (in the particular case) appropriate motor apparatus; (2) character of sense-impressions (intensity, quality, duration, extension); (3) absence of complicating impressions.

(b) Internal.—(1) The affective value of impressions; (2) the relation of impressions to the (individually different) psychophysical "stock" or "capital"—to a man's "psychostatical conditions," as Lewes calls them (memory, education, mood, habits, etc.); (3) absence of complicating mental processes.

III.—THE SPHERE OF CONATIVE ACTIVITY.*

Wundt's doctrine of will was classed above with those of Beneke and Fortlage, as being more broadly conceived than the views of the other positivists. The critics have, of course, not been slow to remark on this width and extent of apperceptive activity in his psychology. Professor Muensterberg speaks somewhere of the great *Sammeltopf* of apperception; and Dr. Ziehen, in his preface,† indulges in similar sarcasm. But if once the actuality of the activity-experience is granted, its far-reaching character must be also allowed. Without going into full detail, I will attempt to shown in outline the *rôle* which Wundt ascribes to it. (1) As regards the other conscious *elements*. A sensation can be apperceived. And not only is affection a frequent determinant of will, but the sense-feeling is itself the mode of reaction of apperception upon sense-impression. (2) As regards *fusions* of the conscious elements. The idea (fusion of sensations) can be apperceived. Attention, desire, instinct, obviously all involve the presence of conation. Emotion implies, at least, passive, and the "intellectual feelings" (æsthetical, religious, ethical, logical) active apperception. (3) As regards *combinations* of conscious elements. The idea (combination of sensations) can be apperceived. Associations of ideas must excite the passive apperception, and may also be actively apperceived, and thus transformed to "apperceptive combinations." Impulsive movements and voluntary movements alike demand for their analysis the recognition of the conative element. (4) As regards the *self-consciousness*. This arises

* *Phys. Psych.*, i., 4th ed., p. 587 ff.; ii., 3d ed., 239 ff., 361 ff., 408 ff., 487 ff. *Phil. Stud.*, i. c. *Vorlesungen*, p. 238 ff. *System*, p. 562 ff. Külpe, i. c., p. 432 ff.

† P. iii.

from a sum of (a) permanently present ideas, (b) standing in a relation of dependency to the will. In the last instance, the activity-experience or apperception-experience usurps the full dominion, and of itself constitutes the *ego*—the ideational content becoming of secondary importance.

This scheme is, as I have said, but a bare outline. It must be filled in from the writings of Wundt himself. But we can see clearly from it the vast importance predicated of the will. As Dr. Külpe puts it: * “In the adult consciousness there is but one content which is either not dependent on conation, or not fused or combined with it—the perceived sensations and ideas. In all our remaining mentality, apperception is somehow implicated.”

IV.—THE PHYSIOLOGICAL SUBSTRATE OF APPERCEPTION.†

Like all other mental processes, the activity-experience must have a physiological (neural) correlate. There are two points to notice: (1) We find, as a matter of pathological fact, that lesion or degeneration of the *frontal lobes* brings with it disturbances of the “intelligence,” of the moral nature, and of the “will.” (2) There is a relativity of neural function, as there is a relativity of mental process. Neural function is a matter of neural connections and relations. Now apperception requires both sensory and motor connections. The special sense-centers must excite the organ of apperception centripetally; excitations from the organ must be able to reach the motor centers centrifugally, and issue in voluntary movements. These conditions are given in the *frontal lobes*. “Highest-level neural synthesis”‡ may be safely predicated of them. From this point of view also, then, the seat of apperception seems indicated with tolerable clearness. But the localization of the “organ of apperception” is confessedly hypothetical and tentative.

V.—THE GENESIS OF CONATION.§

There are, plainly, two opposed views, prevalent in psychology, of the genesis of the will: the heterogenetic and the autogenetic view. The former derives conation from the non-conative, the latter declares that will cannot be deduced from any process but its own. Herbart and Lotze are typical adherents of heterogenesis; Wundt maintains the autogenetic standpoint; Bain occupies an intermediate position between the two schools.

The question of the ultimate origin of will, psychology cannot attempt to answer. It asks as much or as little about this as it asks about the

* *L. c.*, p. 437.

† *Phys. Psych.*, i., 4th ed., p. 228 ff.; ii., 3d ed., p. 240 ff. Külpe, *l. c.*, pp. 438 ff.

‡ Cf. Waller, *Brain*, lix. and lx., p. 393.

§ *Phys. Psych.*, ii., 3d ed., p. 403 ff. *Essays*, p. 286 ff. *Phil. Stud.*, i. c. *Vorlesungen*, p. 238 ff., 461 ff. *System*, p. 579 ff. Külpe, *l. c.*, pp. 440 ff.

ultimate origin of sensation or affection. But when we have recognized conation as an elemental conscious process, qualitatively irreducible, existing alongside of the other two ultimates, we can proceed to ask questions as to its successive concrete manifestations—its post-natal development, so to say. And here three topics present themselves for discussion: (1) The relation of conation to its fellow-elements; (2) the passage from internal to external conative activity; and (3) the genesis of complex action from simple.

(1) The first issue has already been discussed under III. above. (2) The passage from internal to external conative activity is explained in accordance with Wundt's general conception of apperception. Logically, at least, the internal is the prior of the two. The external is, when psychologically formulated, nothing more than the apperception of an idea of movement.

We may distinguish apperception itself (the internal activity of will) not only as passive and active, but as impulsive and reproductive. In the case of the latter form, it is the memory-image of a particular movement which is apperceived; in the former, the will-process accompanies the movement itself. The hypothetical apperception-center, it must be remembered, is connected both with the sensory and motor areas; it modifies incoming, it can set in motion out-going excitations. There is, therefore, nothing forced in the notion of an impulsive form of apperception.* We find now (*a*) that in the scale of conscious life univocally determined volitions appear to precede those which are conditioned by a play of motives; (*b*) that the sensation comes before its reproduction, the fact of movement before its memory-image; and (*c*) that reproductive apperception implies the play of motives just now alluded to, and therefore inhibits impulse. Putting all this together, we conclude: (1) That the internal act of will, apperception, is the primitive act; there is no consciousness without apperception;† and (2) that the external voluntary act springs from impulsive apperception (simultaneous apperception of a sense-impression and the movement which this impression physiologically conditions), developing by way of taking into itself, at a later stage, the idea (memory-image) of movement. From which statements follow two important corollaries: (*a*) Reflex acts are originally impulsive acts, which have become mechanical; and (*b*) the movement-ideas, which are so essential to the heterogenists, are on Wundt's theory secondary phenomena; the primitive, impulsive movements were performed without their aid.

(3) The third problem was that of the genesis of complex action from

* We must not be led, in this connection, to ascribe to Wundt the positing of an *Innervationsempfindung*. (Cf. the collation of passages bearing on this point in *Mind*, Jan., 1893, p. 143.) His phraseology is, unfortunately, loose in places: cf. *Phys. Psych.*, ii., 3d ed., p. 235. But revision comes with new editions: *Phys. Psych.*, i., 3d ed., p. 233, is improved in i., 4th ed., p. 228; *Ethik*, 1st ed., p. 380, in 2d ed., p. 442, etc.

† *Phys. Psych.*, ii., 3d ed., p. 470.

simple. Conscious life begins, for Wundt, with the simple impulse—*i.e.*, with a mechanically conditioned movement, in which, however, both toned sensation and motion are apperceived. Not, of course, that the three processes of sensation, affection, and conation are already differentiated in the protozoan consciousness. But they are present in germ. From the impulse, which possesses in some measure the characteristics both of voluntary and of reflex action, there are two lines of development: one of degeneration, to the physiological reflex; the other of ascent, to the decision after deliberation.

Such, in brief, is Wundt's Psychology of Will. No such cut-and-dried presentation as I have given will be found in his manifold publications. Rather does he approach the matter in various works from the standpoints of various sciences; so that often there occur seeming contradictions in his doctrine, statements which are, however, easily reconcilable with the central thesis, if their context and special setting are noted. Wundt does not attempt to be "easy"; rather has he the fault of so many constructive thinkers, that of regarding a difficult problem, which has become for himself from long consideration familiar almost to contempt, as equally well-known to and apprehensible by his audience. Hence many obscurities and some carelessnesses in the course of his exposition. The present paper may, I hope, serve as a sketch-map, based on his survey, of the most difficult field in psychology to English-speaking students, as that of Dr. Külpe* has been to so many Germans. Two things should, at any rate, have been now made clear: that Wundt's Psychology of Volition is indeed empirical, and that it is—intelligible.

DISCUSSION.

DR. BOARDMAN: Freedom is an ultimate fact. It is *sui generis*. It is known intuitively to consciousness. Much has certainly been determined and stated concerning its conditions, and results, by philosophy. Plato and Aristotle affirmed important truth concerning it. Much has been added in modern, and as it seems to me in recent, times. All concerning it can never be known to finite minds. Its relations to environment, inward and outward, to the universe, and to God, will invite study, will reward labor, and will forever extend beyond the reach of finite investigation. Notwithstanding the obscurities of Wundt's treatment of it, we catch many profound statements. His apperception seems to be substantially voluntary and resolute attention to an object. Liberty is far more than this. It is not mere intellect, or the object chosen. There is a third element, choice, not accounted for in either of the others. It is a distinct, primitive, fundamental activity; a *sui generis* activity of the soul.

* *Phil. Stud.*, II. cc. Also procurable as off-print.

DEPARTMENT CONGRESS OF EXPERIMENTAL PSYCHOLOGY.

SECRETARY'S REPORT.

FIRST SESSION—WEDNESDAY, JULY 26, 1893.

THE meeting was called to order, at 9.30 A.M., by President G. Stanley Hall, of Clark University, Worcester, Mass., a large audience being assembled. President Hall delivered the opening address, choosing as his subject, "Child Study as a Basis for Psychology and Psychological Teaching."

The following additional papers were presented during the session :

"The Imaginations of Children," by E. Harlow Russell, Principal of State Normal School, Worcester, Mass.

"Mental Waste and Economy," by Professor G. T. W. Patrick, State University of Iowa.

"Dominant Seventh in Education," by Miss H. E. Hunt, Pd. D., Hartford, Conn.

"Constitutionally Bad Spellers," by Miss Adelaide E. Wyckoff, Packer Institute, Brooklyn, N. Y.

An animated discussion followed the reading of the paper by Miss Wyckoff, in which Professor Russell, President Hall, Professor Krohn, Mrs. E. R. Sunderland, Mrs. Barns, Miss Gillet, Professor Patrick, Professor Harvey, Dr. Burnham, Mrs. Weston, Professor Soldan, Professor Trendly, and Miss McDowell joined.

The session adjourned at the close of this discussion.

SECOND SESSION—THURSDAY, JULY 27, 1893.

Dr. G. Stanley Hall, president of the department, presided. Before beginning the regular exercises Professor Compayré, the well-known author of "Intellectual and Moral Evolution of the Child," "History of Education," and many other works, briefly addressed the Congress in French.

Professor Earl Barnes, of the Leland Stanford, Jr., University, California, read a paper presenting the thesis, "A Study of Children's Theology." A lively discussion followed. Those who took part in it were : Dr. Schaeffer, State Superintendent of Pennsylvania ; Rabbi Lyons ; Superintendent Brooks, of Philadelphia ; Professor Sinclair, of Hamilton, Ont. ; Dr. Winship, of Boston ; Mrs. Western, of Chicago ; Mrs. Tupper-Maynard ; Miss Lloyd, of Pennsylvania ; and Mrs. K. V. Grinnell, Mayfair, Ills. Miss Lloyd's criticism was greeted with applause.

Professor W. H. Burnham, of Clark University, Worcester, Mass., read a paper on "Child Study as a Basis of Pedagogy." This was followed by a paper on "The New Psychology in Normal Schools." by Miss Lillie A. Williams, State Normal School of Trenton, N. J. Professor Barnes, of California, and Mr. Galvin, of the Wisconsin State Normal School, took part in its discussion.

Dr. F. Tracy's paper on "Infant Vocabularies" was read by Professor Hervey.

The next paper was presented by Dr. E. M. Hartwell, director of physical culture, Boston public schools. Its subject was: "Principles of Physical Training and their Application to the Prevention of Stuttering in Children." An interesting discussion followed.

The Secretary read the paper of Mr. James Sully, of England, on "Dreaming and Poetic Invention."

After the reading of this paper the meeting adjourned.

THIRD SESSION—FRIDAY, JULY 28, 1893.

The session was opened by President Hall, who called for the report of the committee appointed to draw up a plan for the organization of a national society for child study. The committee submitted the following plan, which was adopted:

I.

This organization shall be known as the American Association for the Study of Children.

II.

Its object shall be to forward, through the organization and co-operation of its members, the scientific study of children.

III.

Its officers shall consist of a president, ten vice-presidents, a secretary and a treasurer.

IV.

Any man or woman interested in the study of children shall be eligible to membership on the payment of a fee of ten dollars. An annual fee of two dollars shall be paid by each member, the money to be used for printing and distributing outlines of study and suggestions for work.

V.

The association shall hold one meeting each year, at the same time and place as the National Council of Education.

VI.

The president and vice-presidents shall constitute an executive committee, the duty of which shall be to prepare and circulate among the members of the association, within two months after the annual meeting, a suggestive outline of work for the year. This committee shall also assign papers to be prepared for the annual meetings, and it shall arrange to have data sent to the persons having special subjects of study in hand by the members of the association.

VII.

Officers shall hold their positions for one year, and shall be elected at the annual meeting, by a majority vote of those present.

VIII.

These by-laws may be amended by a majority vote at any annual meeting.

IX.

The National Association will foster the establishment of local chapters, and will receive as adjuncts such local associations as are already in existence, and who present themselves for due and proper affiliation.

The following were proposed and elected officers of the association :

President—Dr. G. Stanley Hall, Clark University.

Vice-Presidents—Miss Lillie A. Williams, State Normal School, Trenton, N. J.; Miss Millicent Shinn, Editress *Oberlin Monthly*; Professor E. R. Shaw, University of the City of New York; Professor Earl Barnes, Leland Stanford, Jr., University; Professor O'Shea, Mankato, Minn.; Dr. Shaeffer, State Superintendent of Public Instruction, Pennsylvania; Professor J. M. Bailey; Professor E. Harlow Russell, State Normal School, Worcester, Mass.; Professor G. T. W. Patrick, State University of Iowa; Mr. Louis J. Block.

Secretary and Treasurer—Professor W. L. Bryan, State University of Indiana.

The above report was signed by the following members of the Committee on Organization : Professor Earl Barnes, Miss Lillie A. Williams, and Mr. Louis J. Block.

The following papers were presented during this session :

"On the Observation and Study of Movements and Mental States, Based on the Examination of some Fifty Thousand Children," by Francis Warner, M.D., of London, England. The paper was read by Professor Crohn.

Tests reported by Professor Bryan were directed mainly towards the questions of Eye and Ear-mindedness. This was followed by a brief "Plea in behalf of one kind of child-study, namely, that in which methods already scientifically developed in the laboratory are applied to large numbers of children."

"Some Association Tracks Involved in Reading and Spelling," by Superintendent T. M. Balliet, Springfield, Mass.

"First Two Years of Childhood," by Miss Millicent Shinn, Editress of *Oberlin Monthly*.

The discussion, which owing to the length of the programme was very brief, was engaged in by Professor Bryan, Professor Cook, Professor Hervey, Miss Rebecca Rice, of Chicago, Mr. Butler, and Dr. Carns.

The Nomination Committee reported as follows :

For *President* : Professor Earl Barnes, Leland Stanford, Jr., University.

For *Vice-President* : Professor W. L. Bryan, University of Indiana.

For *Secretary* : Miss Lillian A. Williams, State Normal School, Trenton, N. J.

The meeting then adjourned after some felicitous remarks by Dr. G. Stanley Hall.

LIST OF PERSONS ACCEPTING THE OFFICE OF HONORARY VICE-PRESIDENT OF THE DEPARTMENT CONGRESS OF EXPERIMENTAL PSYCHOLOGY IN EDUCATION.

FRANCE.

Prof. Beaunis, Faculty of Medicine, Nancy.
Dr. Alfred Binet, at the Hospital Salpêtrière, Paris.

GREAT BRITAIN.

Dr. Fletcher Beach, M.B., F.R.C.P., Medical Superintendent of Dareuth Asylum for Imbecile Children, Dareuth.
Prof. E. A. Schäfer, Medical Faculty University College, London.

UNITED STATES.

DISTRICT OF COLUMBIA.

Prof. C. C. Cook, Howard University, Washington.

ILLINOIS.

George A. Coe, Ph.D., Northwestern University, Evanston.
Hiram K. Jones, M.D., Illinois College, Jacksonville.
William O. Krohn, Ph.D., State University, Champaign.
Benjamin Smith, A.M., Chicago.

INDIANA.

William L. Bryan, Ph.D., Indiana University, Bloomington.
Rev. Stanislaus Fite, C.S.C., University of Notre Dame, Notre Dame.
Edward H. Griggs, Indiana University, Bloomington.
Alexander Martin, D.D., De Pauw University, Greencastle.

IOWA.

George T. W. Patrick, Ph.D., University of Iowa,
Iowa City.

KENTUCKY.

John P. Fruit, A.M., Bethel College, Russellville.

MARYLAND.

Edward H. Griffin, D.D., Johns Hopkins Univer-
sity, Baltimore.

John B. Van Meter, D.D., Woman's College of
Baltimore, Baltimore.

MASSACHUSETTS.

Mary Whiton Calkins, Wellesley College, Welles-
ley.

Henry N. Gardiner, A.M., Smith College, North-
ampton.

Charles E. Garman, A.M., Amherst College, Am-
herst.

Mrs. Mary Graham, Ph.B., Mount Holyoke College,
South Hadley.

MISSOURI.

J. P. Blanton, A.M., University of Missouri, Co-
lumbia.

Stanley Stoner, LL.B., Washington University, St.
Louis.

NEW HAMPSHIRE.

Rev. Gabriel Campbell, D.D., Dartmouth College,
Hanover.

NEW YORK.

Prof. F. C. French, Colgate University, Hamilton.
Pres. David J. Hill, Rochester University, Roches-
ter.

George B. Newcomb, Ph.D., College of City of New
York, New York.

OHIO.

Rev. George P. Coler, Ohio State University, Co-
lumbus.

Rev. John M. Ellis, A.M., Oberlin College, Oberlin.
Rev. Lorenzo D. McCabe, D.D., LL.D., Ohio Wes-
leyan University, Delaware.

Arthur C. Pierson, Ph.M., Hiram College, Hiram.

PENNSYLVANIA.

Rev. Addison Ballard, D.D., Lafayette College,
Easton.

Rev. George Stuart Fullerton, University of Penn-
sylvania, Philadelphia.

Lightner Witmer, A.B., University of Pennsylvania,
Philadelphia.

Rev. Elwood Worcester, Lehigh University, South
Bethlehem.

RHODE ISLAND.

Edmund B. Delabarre, Ph.D., Brown University,
Providence.

TENNESSEE.

Rev. F. A. Shoup, D.D., University of the South,
Sewanee.

VERMONT.

Rev. Henry A. P. Torrey, University of Vermont,
Burlington.

VIRGINIA.

Noah K. Davis, LL.D., University of Virginia,
Charlottesville.

WISCONSIN.

James J. Blaisdell, D.D., Beloit College, Beloit.

Joseph Jastrow, Ph.D., University of Wisconsin,
Madison.

Rev. Edward H. Merrell, D.D., Ripon College,
Ripon.

EXPERIMENTAL PSYCHOLOGY IN EDUCATION.

CHILD STUDY AS A BASIS FOR PSYCHOLOGY AND PSYCHOLOGICAL TEACHING.

ABSTRACT OF OPENING ADDRESS BY G. STANLEY HALL, PRESIDENT OF
CLARK UNIVERSITY, WORCESTER, MASS.

THE history of the scientific study of children began in this country in 1879, when four kindergartners in Boston, acting under Mrs. Quincy Shaw's lead, took three or four children at a time aside and endeavored to find the contents of their minds. The results of this work were published in the *Princeton Review* in 1880. The work showed great gaps, so great that it was dubbed "a study of ignorance of children." It came out that the primers were made for country children, while the great bulk of children are city born. This line of work has since been carried on into the college ranks. As the study has already thrown light on common-school problems, so, it is hoped, like aid will come to college problems.

Another line of study is the measurement of children. More children have been measured in the United States than elsewhere, but the results have not been worked over so well here as in Europe. It has been found that children grow tall in spring, and stocky in fall; further, that different parts of the body have different periods of best growth. Times of physical growth are also times of mental growth in acquisition, though children then are not able to systematize well. Hence, in time of great acquisition ease up the constraint of methods; take the child to the World's Fair, but don't ask him to explain it all.

A third line of study is of exceptional and defective children. "Study the child" is becoming "Study *this* child." The method-enthusiast prides himself on results gained from stupid children; but we must let the bright children set the pace. I would rather have a teacher who knew nothing of methods for defective children, if he but knew the childhood of distinguished men, to put in the model school that I should like to see established. An experiment was made a few years ago in Paris which showed that methods adapted for bright children enabled a class of average boys to complete the six years' course of the Lycée in a little over two and one-half years, although no extra time was given. By such means I am confident we can work twice as fast with the brighter half of our classes. This is not theory; I have tried it.

A fourth line of child study relates to health. The modern school is a

tremendous engine to drive the child organism. Five hours a day, five days in the week, and nine months of the year—history shows no other such test of child-nature. It is an irremediable bad, if the child's health or system is in any way seriously impaired ; better let children grow up in idyllic ignorance than vitiate their health.

These are four lines of child study ; now for two points farther. First, let us look ahead and see what is to come of it. As I see it, there are two movements in the air at present. One of these, shown in art, government, or other lines, is a "back to nature," even to primitive peoples and ways. This tendency is especially in place in our country, which is without historic background ; we are freer to accept and use a good idea when found. Wagner, it is said, got his fundamental movements from the Hungarian folk-songs ; and he is reported to have said the next great composer would make his fame by working over the negro melodies of America. So, the school of the future must be based on original child-nature. The other movement is engaged in an effort to reconstruct the grammar-school course. To do this work well, there is needed a union of teachers, who can tell what the people will stand being taxed for, and how much can be put in a course, with scientific men who can give insight into wider relations. But both of these movements are parts of a far larger one which desires that school-hours, curricula, exercise, buildings, etc., shall all be reconstructed in accordance with child-nature, the true norm, in order to obviate the dangers inherent in our present great machine. If the showing of bad bodily results made by investigators of European schools shall be found to hold good of our schools also, public opinion will no longer give them the support they now have. Our public school system is our pride ; we must keep it efficient if we wish it to retain confidence.

CHILD STUDY AS THE BASIS OF PEDAGOGY.

ABSTRACT OF PAPER BY WILLIAM H. BURNHAM, CLARK UNIVERSITY,
WORCESTER, MASS.

I do not deem it necessary to maintain the thesis involved in my subject, namely, that the study of children *is* the basis of pedagogy ; for if there be any pedagogy, what else could be the basis of it ? I wish, rather, to recount very briefly some of the pedagogical principles that seem already to have been settled by child study. And when I speak of the study of children, I use the word in the broadest way. Teachers and psychologists are by no means the only ones who have studied children. Some of the most important studies have been made by physicians, neurologists, and anthropologists. The child study upon which pedagogy is based should include every scientific study, wherever made, relating to a

child's mind or body. This paper will be confined chiefly to a few principles that result from psychological and anthropological study of children.

The first pedagogical principle settled beyond controversy by this broad study of children is that no development is possible without the functioning of the nervous system. This is no barren truism, for it follows that the laws which express the development and activity of the nervous mechanism must determine pedagogical principles.

Among these laws, one of prime importance is the following: The fundamental is developed before the accessory. This is best seen in the development of the motor centers. The centers that control the muscles of the trunk, of the shoulders, and of the limbs are developed first; those that mediate the delicate muscles of the fingers and the vocal organs are developed later. The same is true in general. The simple and fundamental processes are first; the fine, delicate, and complex processes come later.

This law of the child's nervous system is the basis of a most important educational principle. First the fundamental, then the accessory. This applies not only to the various forms of motor training—manual training, gymnastics, and the like—but, in general, first a strong, healthy development of the fundamental nervous processes is necessary, then may follow more delicate and complex acquisitions. A reversal of this order, the imposition of delicate, subtle, and complex occupations in the kindergarten or the primary schools, may please parents and committees, but it is contrary to a law written in the child's nerve centers.

Again, all parts of the body do not develop at the same time. Each organ has its peculiar nascent period. Moreover, there is a close relation between the function of any organ and its development; and the highest degree of skill in the use of an organ can often be acquired only during the period of growth. The acquisition of language, for example, is probably a case in point. If, during the period that the vocal organs and the corresponding nerve centers in the brain are developing, attention is given to educating some other part which is not ready for training, two-fold loss is likely to be the result—waste of energy or injury in case of the latter, loss of opportunity in case of the former. So, too, if manual training be neglected in early life, during the nascent period of the motor centers, great skill can seldom be attained afterward.

Corresponding to the nascent periods of the motor organs are the periods of interest in the child's mental growth. This year your boy has the collecting mania; next year it will be baseball or the secret language; a third year it will be the debating society; or he may be hunting or stuffing birds and snakes. These interests are sacred. Some of them should be turned into new channels; others should be made permanent, as a part of character. But, in all cases, the time of interest is the time

of opportunity ; and here opportunity seldom comes twice. Special studies have shown the sequence of children's interests. This must be considered in determining the course of study ; for, as Professor James puts it : " To determine the moment of instinctive readiness for a subject is the supreme duty of every educator."

Psychological studies have also brought into prominence the active side of child nature, and one of the most important movements to-day is the tendency to emphasize the active side of education. Pedagogy based upon child study seeks to use all the light that comes from the various fields of psychology, and with that light to appropriate all that is best in all the various systems of education. It admits with Pestalozzi the fundamental importance of sense perception. Things before words, the concrete before the abstract, clear perceptions before the working over concepts. With Herbart it maintains also that sense perception is not enough. There must be mental assimilation and the study of causal relations, but also there must be the expression of thought ; and, more than Pestalozzi or Herbart, it places emphasis upon the active, the productive, the creative processes in education.

THE DOMINANT SEVENTH IN EDUCATION.

BY MISS HATTIE E. HUNT, PD.D., HARTFORD, CONN.

It has been said that " music is the harmonious voice of creation, an echo of the invisible world, one note of the divine concord which the entire universe is destined one day to sound." (*Mazzini*.)

Harmony is the one common and constant element which serves to link all existence in one complete whole.

Since harmony of sound, or music, is taken as the type, let us give it a moment's consideration.

The physical apparatus for hearing is such that auditory discriminations approach the marvelous, and yet the laws of harmony from the artist's point of view are comparatively simple. Let me mention two of these laws. First, every perfect cadence must close with the tonic chord, the fundamental tone of which is the key of the cadence. The other law relates to a peculiar combination of tones forming a chord which produces in the mind of the hearer a feeling of unrest, of expectancy, a feeling of longing, which can be satisfied only by hearing the tonic chord. This combination of tones is known as the chord of the dominant seventh, and it must always be followed by the tonic chord. As its name implies, it is a ruling chord, and it determines the key.

These then are the two most important rules of harmony in music—

every perfect cadence has its fundamental or key tone, and the chord of the dominant seventh determines this key.

We hear much in these days of harmony in education. That, however, is a very old thought. Plato gave as the type of the cultured man one who is harmoniously constituted. Let us see what the centuries evolved out of Plato's idea of harmony. To be harmoniously constituted means in this age to be physically, spiritually, ethically, and intellectually developed. All the superiority that we can claim for this conception over that of Plato's is, possibly, a little finer discrimination, that is all. We cannot improve very much on Plato's idea of a harmonious constitution. It is the idea of "man" that has changed. In Plato's time "man" meant a few favored Athenians, but now it has come to mean not only the citizen, but the slave, and even woman. In a word, education has become the birthright of humanity, and to secure to each individual his right, four great institutions have been established; the family, the church, the state and the school. According to the popular idea, however, the school is alone responsible for the education accorded to man. The school is expected to produce the perfect cadence, the tonic chord.

But we have seen that there is a chord, namely the dominant seventh, which precedes the tonic chord, and determines what its fundamental tone or key shall be. Now if the school is to produce the tonic chord, what period of education is to produce the dominant seventh? When is it that the key of our harmony is determined? It is the period prior to the kindergarten period—the home period. That is the dominant seventh in education, for it is then that all those forces that make or mar the harmony of our lives are aroused and given direction. Of all the stages of development through which a child passes on his way to maturity, none provides him with more unqualified tutors than does this period, for it must be remembered that the care of infants devolves upon the young parents, and not upon those whose experience has afforded a certain amount of empirical knowledge, together with a deeper sympathy for humanity. Usually their education is left, as Spencer says, "to the chances of unreasoning customs, impulse, fancy—joined with the suggestions of ignorant nurses and prejudiced grandmothers."

Let us see what modern psychology and child-study has to say concerning some of the "unreasoning customs" that everywhere obtain in the home training of children.

With regard to the treatment of the will—I cannot say "training of the will," for there is little conception of that—there are two opposing theories. One is that the will should be broken, and the other is that the child should be allowed his own way until he is old enough to understand the whys and wherefores. Neither of these theories contains even so much as a suggestion concerning the real nature of the will nor its proper training.

Desire is the controlling element of will, and Preyer tells us that "desire presupposes ideas, and through the cultivation of ideas of a higher order the will may be directed even in the second year, and thereby character formed; but only through the inexorable consistency which allows no exception to a prohibition, is it possible to maintain the form once impressed on the character."

The will plays a very important part in the process of living; indeed, it would almost seem that the combined action of the psychologists of to-day would succeed in reducing all mental activity to some form of will; and can parents afford to neglect so important a duty as the training of the will? Or, worse still, can they afford, through ignorance, to misdirect it, thus warping the characters of their children? Many a child has been saved by an enthusiasm—by some line of diversion that has been opened to him generally by some one other than his father or mother. The discipline of parents is usually negative—what you may *not* do, not what you *may* do.

Again, take the matter of heredity. Who knows so well as the parent what tendencies the child is likely to inherit? Yet how far has empirical knowledge advanced along this line? May not the sum total be expressed in the saying, "He is a chip of the old block"? This phrase suggests Spencer's law of least resistance, but there is in it no suggestion of the suppression of evil tendencies through the establishment of new and better ones. Whether one believes with Galton that "nature prevails enormously over nurture, when the differences of nurture do not exceed what is commonly to be found among persons of the same rank of society and in the same country," or whether one holds the opposite belief, certain it is that only through a knowledge of these laws can one be led to feel the responsibility of parentage or to intelligently discharge these responsibilities.

The popular conception concerning habit is that there are certain bad habits, such as smoking, gambling, reading trashy novels, etc., which children catch much as they do whooping cough or measles, when they reach the right age for being exposed to them. This conception of habit is most disastrous in its results. Evil habits are only the fruitage of certain tendencies, which in their earlier stages have seemed harmless. Habit is somewhat like that fresh-water mussel, *Unio*, in which the young differ so widely from the adult that they were supposed to be parasites, and were so described. Habit is a subtle thing, and requires a far-seeing eye to detect the tendency of its growth. The theory of "sowing wild oats" has always been warmly advocated by the old, and devoutly followed by the young. The truth that "Whatsoever a man soweth, that shall he also reap," seems to be disregarded.

Since total ignorance concerning the development of mental activities obtains so largely among parents, and, we may add, teachers as well, the period of sense-perceptions (if I may so designate the period when these

activities predominate) is almost wholly ignored, and other activities are forced upon the child.

We are told that gaining knowledge is seeing relations. If parents were fully aware of the meaning of that statement, how much they could do in incidental ways to open the minds of their children to see relations! Learning to see is not a matter of eyesight. Training the power of observation means to furnish the mind with concepts with which to see; it is rendering the mind sensitive to relations; relations of force and life, as well as relations of number as expressed in dollars and cents.

To observe carefully and state accurately is a rare accomplishment. (Those of you who have the pleasure of working with little children must have discovered how thoroughly every father and mother believes in the veracity of their child, and how very far from the mind of the average parent is the fact that at times any child is quite likely to be careless in observation and consequently inaccurate in statement.) If children are not trained to accuracy at home, where will they be so trained?

Thus briefly I have endeavored to bring to your notice a few of the "unreasoning customs" that obtain in the home period of education. That these customs work positive evil is clearly evident.

The question now comes, How can this difficulty be overcome? How may the masses be fitted to intelligently discharge the duties of parenthood? I think we shall all agree that in the prosecution of any new line of work it is always more economical to make use of already existing institutions, than to establish new ones, and we have not far to search in order to find those institutions which should do this work. Those persons who are to be the future mothers and fathers, and who are now passing through the school period, must look to the colleges and high-schools to give this most necessary part of their training. No doubt every one present this morning is interested in the discussion now going on concerning the introduction of pedagogy into colleges and universities. If we may judge from the number of cities and states that are now making a knowledge of pedagogy one of the requirements for teaching, I think we may say that it is now generally admitted that teachers as well as lawyers and physicians should have professional training. But how about parents, should they be left to experiment in ignorance?

For example, it is entirely within the province of a liberal education to furnish a knowledge of the general laws of the development and the working of the human mind. But where, and how? We cannot expect to reach the masses through the colleges. To get a step nearer we must go the high-schools. I do not mean the metaphysical psychology that deals with abstract speculations, but I refer to the new experimental psychology, such as is being carried on by Dr. Sanford of Clark University, Professor Scripture of Yale, and others throughout the country, though, of course, the work must be appropriately simplified. Such a

course of psychology and child-study as I have in mind need not necessarily be introduced as a new branch, but can very naturally be incorporated in the work of physiology, and be made to contribute its share toward the cultivation of the powers of observation and judgment in the student. I am sure that the facts contributed to the general sum of knowledge by this subject are of such vital importance that we cannot afford to set them aside.

With regard to those persons who have already passed the school period and yet lack the necessary knowledge and interest in this subject, I am sure the time is ripe for action. The University Extension and kindred societies which are doing so much toward raising the standard of general culture can certainly lend a hand, by providing courses in psychology and child-study for parents.

Already in London there has been formed a society known as the "Parents' National Educational League," of which the Earl and Countess of Aberdeen were presidents. This is a step in the right direction, and has been followed by the establishment of a class of mothers for the purposes of child-study in connection with the Brooklyn Institute, Brooklyn, N. Y. The exact character of the work of this latter class I do not know, but it serves to indicate that a demand for such work exists. In these days of societies and clubs all that is needed is suggestion and intelligent direction. But there must be some one to suggest and some one to direct, and I am going to take the liberty of placing the responsibility of this upon the advocates of child-study. The knowledge that you are seeking is just the kind of knowledge that parents need. These questions which interest you from a scientific point of view, should be made of interest to fathers and mothers from a practical point of view; and I want to ask you of what avail are all your research and splendid achievements, if after all they do not directly benefit the children; and how can they benefit the children except through the parents?

Let me entreat your interest in this movement, for the initiation of which two things are necessary: first, literature adapted to the use of parents. Will you not formulate the methods and results of your investigations in such a way as may be available in carrying on this work? The second requirement is interest. Will you not, each one here present, take it upon yourself to create in your own social circle, whether it be great or small, such an interest in child-study as shall move parents to seek that enlightenment which is so necessary to the intelligent direction of home training?

And as we witness the marvellous harmony of things just over in the "White City" by the Lake, may we resolve to sound the chord of the dominant seventh in education, the resolution of which will ever bring us to the perfect harmony of man.

MENTAL WASTE AND ECONOMY.

BY PROFESSOR G. T. W. PATRICK, STATE UNIVERSITY OF IOWA.

I SHALL try to show in this paper that there is among our school children, and older students as well, a large amount of mental waste; that this waste is in part preventable by proper education in early years; that it is one of the functions of experimental psychology to determine the causes and amount of waste and the means of preventing it; that our schools give the matter little or no attention; that they ought to give it the most careful attention. Furthermore, I shall give some examples of mental waste, and propose some means of teaching the practice of mental economy.

In the study of cerebral physiology the first great fact that presents itself is that the brain is a machine, doing work and using up material. The material used is the chemically complex nervous substance itself, constantly built up and replaced by a rich supply of oxygenated blood. The work done on the mental side is in the form of conscious and unconscious thought, feeling, memory, volition, etc. Now some of this work is effective; some of it is useless. Could we examine a theoretically perfect mind, one using up as little material as possible and turning out the greatest amount of effective work, and could we compare such a mind with that of the average brain-worker, we should be astonished, I think, at the amount of mental dissipation in the latter.

The art of mental economy must take account not only of the nervous energy consumed, but also of time. Never before have we realized so fully the need of economy of time in mental work. Never before have we felt so much the truth of Ruskin's remark, "Life is too disgustingly short." Our school curricula are crowded with things that the pupil must know, and there is no time for all. To meet this difficulty, we hear much talk about the unification and coördination of studies. This is well. Since so enormous an amount of mental food must be administered to the young student, let it be prepared for easy assimilation, to be sure. But I think better results would be obtained if half this care were given to the study of child psychology, to the end that his mental digestive processes might be carried on with greater economy.

When I speak of mental economy as that condition in which, with a limited amount of time and nervous energy, the largest amount of effective mental work may be accomplished, I do not speak from a utilitarian standpoint. I do not count as useless any mental activity which contributes in any way to culture, whether intellectual, æsthetic, or moral, or in any way promotes the mental health of the individual, or adds to the sum of his pleasure. All such mental activity let us encourage fully as much as that effective work which wins bread, advances science,

and perfects mechanical arts. What I refer to is that large amount of utterly useless psychosis which uses time and nervous energy and brings nothing physically but exhaustion, and nothing mentally but vexation. Let me cite a single instance from my own experience. When, as a schoolboy, I studied Latin, my plan was to sit at a table with two open books before me—one, the text to be translated; the other, a Latin lexicon. Most of the words were familiar in form, and yet the meaning of the text was not apparent. Then began the mechanical and humiliating task of looking up words which it is no exaggeration to say I had in some cases looked up fifty times before. I searched through the English equivalents of the word as given by the lexicographer till I found one that fitted the case. Next day, the word occurring in a new connection, the same process had to be repeated. I mention this not as the way that language is taught now, but as a mere illustration of worse than wasted effort, encouraging, as it did, superficial perception, weakening the memory, and destroying robust mental confidence and self-respect. In a case like that it is the teacher's duty, for the sake of the student's mental health, to pitch the Latin lexicon out of the window.

I will now try to point out one or two of the more serious forms of mental waste. The first one relates to the attention. There is a common failure on the part of school-children to concentrate the attention upon the work in hand. As the pupil sits at his reading, his composition, his history, geography, grammar, and all studies of this order, his thought dwells intermittently upon the work, and between times runs away to the four corners of the earth. When attention is not determined by mechanical necessity, it is largely determined by interest; and by this law the pupil's attention is called from the work before him to a variety of other things with which his interests are more concerned. The result is a vicious habit of mind-wandering, consuming a large amount of nervous energy and time for the work accomplished. Besides the immediate wastefulness of this habit, the indirect evil effects are far-reaching. One contracts the habit of diffuse psychosis in other things, particularly in two—sleep and recreation. Having allowed one's thoughts to go at all times to the things of supreme interest, one finds, especially in adult life, that during the hours of recreation one cannot divert his thoughts from the cares of business or working hours, so that recreation becomes only partially restorative. Similarly at night, one cannot devote one's self instantly to sleep, for the mind wanders to the cares, troubles, hopes, and pleasures of waking hours. Hence our American insomnia, with its serious nervous waste.

It is imperative that the science of pedagogy shall find some remedy for this form of mental dissipation. There is far too much to do in school years now, to put up with this old vice any longer. Sound psychology and sound pedagogy unite in demanding that in mental work there must

be concentration. One thing at a time, and that intensely. The student must study intensely while he studies, then rest intensely. Concentrated attention is the normal and natural condition of the mind. Over-exertion arises not from studying too hard, but from studying too many hours. It may be too many hours in a day, it may be too many hours at a time. Either is bad and causes plenty of mischief; but there is no psychological warrant for any injury resulting from intensity of mental work.

One of the chief causes of mind-wandering is the undue prevalence of eye and hand study. The pupil is supposed to sit at his desk and gather his knowledge from the dead symbols of the printed page. Every natural impulse of the child rebels against such drudgery, and, drawn by these impulses, his thoughts fly away to the images of real beings and real things. This is one of the long list of evils that have followed the invention of printing. I am aware of the present popularity of the graphic method of teaching, and I am aware of the readiness with which many things may be presented through the eye; but yet through the ear there is a certain fixing of the attention and impression on the memory, a certain intimate relation with the emotional life, and a certain immediate access to the soul of the child, that leads me to hope that in the future of pedagogy less stress will be laid upon the eye and the hand and more upon the ear and the tongue.

Leaving these considerations for whatever speculative value they may have, this much at least would seem to be demanded in the interests of mental economy. Let the pupil when studying by himself be engaged with studies which necessarily engross the attention—such, for instance, as drawing, or such manual work as demands constantly changing adaptations; and for older students, algebra, geometry, or other subjects which, though not absolutely requiring the whole attention, yet for that individual student have sufficient interest to hold it. As for all other branches, let them be taught orally. In oral teaching there is not the same opportunity for the straying of the attention. The pupil must listen, for the teacher will not, as the text-book, repeat innumerable times. If, furthermore, the teacher would insist on the pupil's learning by once hearing, the training of concentrated attention would rapidly advance. I shall welcome the time when again, as in ancient Greece, the lifeless text-book shall give place to the vital words of the teacher.

I pass now to a second source of mental waste closely connected with the other. It relates to the memory. I insist on two points here. First, that our system of education is not calculated to strengthen the retentive powers as much as it strengthens other mental powers, and that this neglect, working with conditions of modern life, is gradually weakening retentive ability. Second, that as a consequence of defective retention an immense amount of nervous energy and time are wasted in relearning what has been forgotten.

Despite our modern and perfectly sound view of education, as something far broader than instruction, nevertheless it is obvious that instruction will always form a considerable part of education. Now, suppose we have a body of truth in which the pupil is to be instructed. If he possessed theoretically perfect retentive powers, each truth, being clearly presented and clearly perceived once, would become a permanent mental possession. This would evidently be mental economy. If, on the other hand, the pupil possesses a slovenly memory, so that each truth must be presented and perceived twenty times and forgotten nineteen, thus evidently nineteen-twentieths of the work is wasted.

Here I suppose I shall be met with objections. No human being, it may be said, is expected to have a perfect memory; furthermore, our school-children and college students are not abnormally deficient in memory, and it is not the function of our schools at all to stuff the memory with a lot of facts. I am well aware that any one in these days who raises his voice for memory training puts himself in an unpopular position. We are living now right in the heat of the reaction against the old memory education—a reaction begun by Locke, Rousseau, and Pestalozzi—and with more feeling than reason we hate everything pertaining to the ante-reformation system. As is usual in reformations, we have swung too far in some things, and particularly in our contempt for memory culture.

Modern theories of education tend to develop acutely the perceptive, discriminative, and volitional powers of the mind, to the neglect of the retentive. In our object lesson, pedagogy teaches to see accurately, to discriminate fully, to execute carefully. It is well designed to turn out good scientists, good critics, good inventors, good mechanics. These ends meet the demands of the day, and we are satisfied. We are more interested in the undiscovered than in the past, hence we prefer to cultivate perception rather than retention. In my opinion, this ideal of the educated man leaves something to be desired; but my point now is that our neglect of memory training is likely to lead to serious and unfortunate mental waste in acquisition.

Incidentally, also, the conditions of modern life are unfavorable to memory. Before the mind of the student passes an infinite variety of new perceptions. There is too much to see, to hear, to read, to allow us to dwell carefully enough upon one thing to remember it.

It is useless to say, quoting some eminent psychologists, that the memory is incapable of being much strengthened by training. In the long run, those mental powers which have the greatest emphasis put upon them in our schools will be developed, while those which are neglected will suffer. There is a certain time in the early life of the child when the memory can be greatly, perhaps almost indefinitely, strengthened by training, but it cannot be done by any incidental hit-and-miss training; it can be done by training that is definite and systematic, directed solely

to this end. In my opinion, not only would such training pay a hundred-fold in mental economy, but it would be a step toward obtaining that mental *balance* which so characterized the education of the ancient Greeks, and which possibly our modern education is in danger of missing. The great men of the world have been men of strong memories. They have not had to waste nervous energy and time in relearning what they have forgotten. They have thus been able to go steadily forward, and accumulate intellectual wealth, which others have acquired and lost.

I have dwelt upon dissipated attention and poor retentive ability as two of the more common sources of mental waste. Although so briefly treated, they will illustrate at least what I mean by mental waste and economy. Two or three other sources of waste I must pass with a word, and still others leave unmentioned.

I believe that we still keep children at work too many hours at a time, and too many hours in the day. The result is cerebral anæmia, spiritlessness, and inefficiency. It is not economical.

We still fail to appreciate how much the emotional and volitional powers of the mind need educating. We develop thought, perception, etc., too much relatively; hence fail to get the necessary mental *balance*.

Finally, we have found yet no way of checking the waste that comes from the play of unhealthy and useless emotions, such as fear among children, and worry in later years.

In conclusion, then, present conditions of life and education make the strain upon the nervous system so great that it becomes absolutely necessary to stop all needless sources of mental waste, and to consider systematically the science of mental economy.

DISCUSSION.

PRESIDENT W. L. HERVEY, New York College for Training of Teachers: Economy of effort is a most difficult matter for the teacher, because of the individuality of the pupils. To be of use, the teacher must know his pupil and apply aid to the weak spot. I take issue with the paper on the point of concentration. There are two lines of study, absorptive and analytic. In the former—*e.g.*, reading—we passively follow an author in order to get his meaning; concentration is in place in analytic study.

DR. W. H. BURNHAM: Did Professor Patrick speak of the waste of being economic? No? Then I will. Edward Eggleston says that when a boy he read Miss Edgeworth's story of the whipcord, and that ever since he has been haunted by it. He says he has saved a deal of cheap cord, and in so doing has lost a greater amount of valuable time. What I wish to emphasize in economy is the need for a due sense of proportion. Get an economic perspective, and dwell on essentials. This is fully as necessary as concentration.

DR. JEROME ALLEN: We speak of economizing memory, but let us first find what kind of memory is needed for a business man. Do we want the portative kind, useful for examinations? Where do we find a man who has or uses a great memory in daily life? Business demands ability to concentrate on one thing to-day or this week, and then to throw all this off and take on another load. This is well shown in a lawyer's work.

DR. DE GARMO : I've been trying to accustom myself to this criticism on the excessive use of the eye and hand. To me it comes to this : If these are used badly, then it is bad. But why not use them well ? The old style of "science" used to be all reading; that is no science at all. But *now* the eye reads *objects*, and is an aid to thought. The observation of isolated details is bad. I apprehend Professor Patrick had in mind diffused observation, in the line of the much abused Pestalozzian method. For my part, I lay great stress on the saying of Herbart, "Bring thought out of observation."

PRINCIPAL F. L. SOLDAN, St. Louis, Mo : A story of Madame de Staël runs as follows : At a dinner-party she was unable to get a word from her partner, a famous author. "Poor man !" she said, "he has put so much thought into his books that he has none left for himself." In a way this criticism will apply to our schools. Time spent on memorizing has left no time for thought. This, at least, is one place for economy. But the cause of excessive eye training lies in matters we cannot control. The eye sees quicker and better than any other sense. We feel heat, but to express our feeling we make use of a scale that appeals to the eye. Yet, with Professor Patrick, I recognize the great importance of the ear in all social intercourse. The ear is the only sense that has deteriorated in civilization ; I am glad it has declined. The days of Buddhist priests who memorize and transmit orally thousands of words have gone by. Memory must not be formal, serial, but closely connected with thought.

DREAMING AND POETIC INVENTION.

BY PROFESSOR JAMES SULLY, LONDON, ENGLAND.

AT the close of an article on "Dreams as related to Literature," published in the *Forum*, March, 1889, I threw out the conjecture, already adumbrated by Lamb, that the dreaming faculty is akin to the poetic faculty, and that the development of either must tend to react on that of the other.

With a view to see whether this guess was supported by fact, I decided to carry out a little statistical investigation. I drew up a schedule of questions, with reference on the one hand to frequency and coherence of dreams and other allied points, and on the other hand to mode of literary activity. These questions were sent to persons engaged in the production of imaginative literature in England, America, and elsewhere.

As might have been expected, some of the recipients of the questions, possibly feeling, as a distinguished novelist put it, that it was disagreeable to be turned inside out in this way, declined the friendly challenge sent them. At the same time my appeal drew out a fair number of responses. These included a large number of leading names in the contemporary fiction of England and of America.

The number of complete sets of answers was twenty-eight. This was, of course, far too small to serve as the basis of an exhaustive statistical investigation. At the same time it seemed to me sufficient to suggest some probable conclusions. I may add that some of my correspondents furnished me with particularly interesting details of their *modus operandi* in literary production. I judged, therefore, that I had collected material enough for a further elucidation of the subject.

- The first point to which the questions addressed themselves was the amount and quality of nocturnal dreaming. With respect to amount of dream experience, the large majority—viz.: twenty out of twenty-eight—informed me that they dreamt frequently. Six, including two names high up in English and American fiction, dreamt “constantly,” or “every night.” On the other hand, more than one distinguished novelist had to confess that, so far as he knew, most of his nights when he was in health were passed without dreams; and one lady writer assured me that she never knew what it was to dream.

As to quality, the dreams of the majority were characterized as distinct and vivid. Only five described their dreaming as indistinct. In other respects the character of the dream-experience differed in a curious way. Thus, while some spoke of it as simple in construction and amazingly trivial and commonplace, others described it as connected and elaborate. On the whole, dreaming of a significant or pointed character, whether from a logical or æsthetic point of view, seems to be decidedly a rarity among our producers of fiction. Again, there are odd differences in respect to the connection between dreams and waking experience. One well-known writer says that her dreams are but a continuation of the events of the day. In the case of the majority, however, the connection seems to be very loose, if discoverable at all. More than one distinctly state that they never dream of the occurrences of the day. One of my correspondents, a constant dreamer, makes the remarkable confession that though he has lain motionless on his back for eighteen years, he habitually dreams of himself as on his feet, and has only once dreamt of lying on his invalid couch.

On another point investigated—viz.: composition of the dream, and more particularly the place occupied by the visual or scenic and the auditory or linguistic element respectively—differences also betray themselves. In most cases the dreamer both sees scenes, persons, etc., and hears the persons speak; yet this manner of dreaming is not constant. There seems to be, in certain instances, a suppression of the auditory element. Thus one writer says: “There are often intervals of dumb show”; another goes further and says: “I never hear the figures speak, yet always understand what they say.” In one or two cases, again, there appears to be a lack of sensuous vividness and directness altogether. Thus one lady writes: “I neither seem to see things nor to hear words during dreams. I am somehow conscious that things *are so* and that people *say so*. It is a bald narrative in the present tense.” On the other hand, some writers make the language element, as lecturing, speech, or reading, a prominent feature. This seems to be illustrated by the case of a well-known American novelist, who, while describing his dreams as distinct and fantastic, adds that in respect of their composition they are marked by “much dramatization and logic.” The dramatic aspect becomes marked in the case of one lady

who describes the attitude of mind in her dreams by saying that she is "in a story," though not as a principal actor, and that the other *dramatis personæ* are unable to understand the occurrences which she can explain.

Once more: The dreams of imaginative writers, to judge from our samples, are not of any remarkable poetic value. Only one respondent describes her dreams as of extraordinary beauty. What is particularly striking is that writers distinguished by their humor do not, apparently, carry this happy endowment with them into dreamland.

We may now pass to another point. I had been much struck by a fact told me by one of the most charming of living English writers, viz.: that he possessed a certain power of controlling his dreams, so that he could, when disturbed in the midst of an agreeable dream, *will* to resume its thread. It occurred to me that other imaginative writers might share in this power, and I accordingly addressed one of my questions to this point. The outcome of this part of the inquiry was slight enough, yet not wholly without value. Most of my correspondents acknowledged that they had no power of the kind. Yet three assured me that they could voluntarily prolong a dream. One, moreover—a writer, by the by, whom I should include with the other just referred to among the three most brilliant English novelists of the hour—went further. "I can," he wrote, "postpone waking while I finish hearing some lecture or story or reading some page in the dream"; and further: "*I frequently alter the development of a dream to something else, if I object to it, precisely as in writing a story.*"

Another question directed to the subject of illusions and day-dreaming elicited only a scanty result. Illusions of the senses seem to have been experienced by nine out of the twenty-eight. Since, according to E. Gurney, occasional hallucinations occur in normal life in about one case out of ten, this would be considerably above the average (roughly as one-third to one-tenth). This relative frequency suggests that there may be a special predisposing cause, such as the delicacy and lability of nervous organization which frequently accompany great imaginative ability, and this conjecture is borne out perhaps by the fact that in several cases, including that of a distinguished German novelist, the hallucinations are confined to periods of illness. As to day-dreaming, the vivid half-hallucinatory realization of fancies, as when one sees pictures in the fire and so forth—the art seems to have been lost with the halcyon hours of childhood, or if it has been preserved, it is only in the altered form of an artistic weapon deliberately subordinated to some literary effect.

This brings us to another and distinct kind of question, viz.: that which sought to unveil the mystery of imaginative composition. Is the mental attitude of poetic creation akin to dreaming to this extent, that the scenes and incidents present themselves suddenly, distinctly, and with the vividness of sense-presentations? Here again marked variations of experience are observable. On one point there does seem, indeed, to be an approach

to agreement. When rapt from his actual surroundings in some imaginative vision the senses of the novelist are not muffled as when he sleeps and dreams. One writer can indeed do imaginative work when people are talking in the same room ; but then Mrs. Somerville could carry on scientific work under the same circumstances, and in each case this seems to show merely a special power of withdrawing the attention from the sensible world, and not a torpidity of the senses as in sleep.

With respect to the precise degree of vividness ascribable to the artistic imagery, there is a general agreement that this is high. The common way of describing it is by saying that the scenes, persons, etc., are distinctly *seen*. When, however, we probe this kind of answer more deeply, we find that it stands for very different types of experience. Thus, one of my correspondents is careful to say that the degree of vividness of his imagination is comparable with that of vivid recollections, and another tells me that the images are "nearly as vivid" as dreams. While, however, some thus distinctly put the products of artistic imagination below dream images, others reverse the order. Thus a distinguished American novelist informs me that he sees things when writing much more clearly than when dreaming. An equally eminent English novelist adds the interesting fact that in his case some time, about six weeks, has to elapse after the characters and history have been decided upon before the former begin to be really alive, and to move and talk of their own will. But by that time, he adds, "*the pictures are too real to resemble dreams and visions at all.*"

In one or two instances it is distinctly told me that the images tend to project themselves on the actual visible scene. Thus, one well-known lady novelist writes: "I have seen the persons in a story of mine crossing the room, but they are more like the figures in a magic lantern than anything else." Another eminent novelist writes: "In imagining scenes I see them enacted. I do not find it necessary to close the eyes, but can make them quite distinct *in front of the actual scene.*"

On the closely connected point of vividness of presentation like disparities of testimony occur. And here I cannot do better than begin by quoting from the letter of the eminent German novelist, Dr. Paul Heyse, who kindly allows me to use his name. "The images of my poetic creations [he writes] have never the character of visions, but I imagine them in pure outlines [*Umrisen*], *with full consciousness that I myself am producing them in my mind.* As, however, I have drawn a good deal, I see them with the greatest clearness, and so am all the more the foe to illustrations, since the artist never brings my own forms before the eye." This testimony does not, however, agree altogether with that of others. What certain writers specially emphasize is the feeling that the imagined scene or action is *given to them* and not consciously produced by their minds. For example, one well-known lady writer says: "I have often seen a face in a cab or train, and I invent a story to it ; or, rather, gradually the story

invents itself while I look on. Thus, on one occasion, after vaguely conceiving the plan of a story, I happened to see a woman at a railway station and said, 'There she is,' and the rest of her history, every thought she had, and all she felt, flowed gradually into my brain." Another puts it this way: "The process is like a dream in seeming to be independent of one's will; one feels as if one were deciphering or remembering, not inventing." The reader need hardly be reminded that Mr. R. L. Stevenson, in the charming "Chapter on Dreams,"* tells us that both in literary composition and in dreaming it is not he but the "Brownies" who do the creating for him.

One curious fact may be added on the mode of artistic representation. Just as the dramatic impulse seems to play a prominent part in many of our dreams, so it figures in poetic production. One lady writes: "While the pictures resemble dreams in a degree, they much more resemble dramatic performance. I find myself imitating the gestures of my persons and representing to my mind the tones of their voices in just the same way that I should represent to myself—and have done—a play in which I was to take part."

My last question, or group of questions, aimed at finding out whether there was any observable overlapping and interaction of dreaming and artistic invention. Thus it was asked whether dreaming seems to increase with amount of imaginative work, and so forth. Here, too, the results were largely negative. A writer by exercising his imaginative gift in waking hours does not necessarily add to its activity during sleep. In a certain proportion of cases, it is true, the filmy creations of imagination find their way across the confines of sleep. Thus more than one novelist has told me that after writing late into the night he is apt, on falling asleep, to reëncounter the figures of his romance. On the other hand, an eminent and voluminous producer of fiction says that though dreaming is common with him he has never dreamt of any figure or situation of his own creation.

The most interesting fact captured by this final cast of the interrogatory net is that a modest proportion of novelists appear to have worked up dream products into their stories. I was put on the track of this fact by what Mr. R. L. Stevenson told me four years ago respecting the genesis of the "Strange Case of Dr. Jekyll and Mr. Hyde," information which he has since given to the world.

About twelve out of my twenty-eight correspondents are clear that they have made use of dreams in stories, and one or two more are doubtful, so that if our sample is a fair one we may say that about half of our novelists owe some of their literary inspiration to the nocturnal pranks of Queen Mab. I may add that the most distinguished names find themselves on

* *Across the Plains*, chapter viii.

either side of the line, some answering the question with an unqualified "no."

One of the positive instances is so remarkable that it deserves to rank by the side of the experience of Mr. Stevenson, to which I shall return presently. This is Dr. Paul Heyse, whom one may name the creator of the modern German novelette, to whom reference has already been made. After remarking that his customary mode of composing a story is by setting out with some mental or spiritual problem to which the external form, scenery, and figures afterward add themselves, he goes on to say: "It has, however, frequently happened to me when dreaming to be present at a more elaborate kind of action which afterward in the morning twilight quickly expanded into novelistic form. In this way I heard the novelette 'Frau Marchese' ('La Marchese') narrated by a sacristan, who pointed out to me and a friend, in a church at Sestri Levante, a woman's form and communicated her history. I wrote down at once in the morning what I had dreamt, and no doubt a good deal was transformed. But I retained even some of the names. A similar thing befell me with the novelette 'Kleopatra,' the wonderful underlying *motif* of which I have clearly before me even to-day in the form of a dream."

It would not be difficult, I think, to point out certain dreamy characteristics in these novelettes. In the first the two scenic elements, the Italian garden with its lush vegetation and its two uncanny figures, and the hushed church with the veiled corpse of the Marchesa, seem to me to have come straight out of a dream. In "Kleopatra" the dream note is still more distinct. In its weird confusion of beauteous and hideous forms, in its ground tone of haunting memory, and more than all in its weaving of a personal love tragedy into the classic story of the Egyptian queen, it seems all compact with the stuff that dreams are made of.

These inferences would, I think, be confirmed by an examination of the stories in which, as he himself has told us, Mr. Stevenson has made most use of dream material. I refer more particularly to the "Strange Case" and to "Olalla."

The result of our inquiry may perhaps be summed up in the following conclusions, which, however, must be regarded as provisional and requiring further confirmation:

(a) There is a certain connection between dreaming and fictive production. By this I mean that imaginative writers appear, so far as my information reaches, to be distinctly above the average in respect at least of the quantity of their dreaming. The connection is seen further in the fact that the two modes of brain activity interact. Thus waking imagination sometimes hands on its production to sleeping phantasy, while, reciprocally, dream products pass over into the region of artistic invention.

The explanation of the connection will probably be found when we know more respecting the mode of brain activity involved in each case. At

present we know next to nothing. The attempts of most psychologists to account for the processes of imaginative creation seem to me among the weakest things in scientific literature, and admirably adapted to conserve the ancient belief that this creation is a mystery which science cannot deal with and which must be referred to some supernatural influence. As to what goes on when we sleep and dream, physiologists are, I think, agreed that we are still in the stage of crude guessing. What seems clear, however, in both cases, is that the new juxtaposition, the new sequence of images, is at bottom an automatic process with which will and conscious selection have nothing to do. This is what Mr. Stevenson expresses in his own fine manner by saying that it is his little people, the "Brownies," who do the work for him, both when dreaming and when inventing. This dependence of all new imaginative work, whether in a waking or a sleeping state, on a sub-conscious mode of cerebral action would lead us to expect that the two domains of activity might interact.*

(b) At the same time, the connection between the two spheres of imaginative activity is not as close as has been supposed—by Charles Lamb, for example. For according to this writer, we ought to be able to gauge a man's poetic faculty by means of his dreams, and we have found that this is not so. If my courteous correspondents have been perfectly open (and it seems unlikely that they would knowingly understate the value of their dreams), we should never be able to infer, from the poor things which the dream fairy sends to some of them, the graceful and delightful forms which their waking imagination throws off.

And here, again, we appear to find what such knowledge of the mental processes as we possess would lead us to anticipate. Whatever sleep may be, it certainly induces very special cerebral conditions, which conditions make any surviving mental activity profoundly dissimilar to that of the normal waking state. Thus there is by common consent during sleep a very considerable suppression of all that we mean by the regulative or volitional factor: we do not reflect and choose; we look on at whatever happens to come. In artistic creation, on the other hand, we have this regulative factor trained to be a special faculty. Even Mr. Stevenson admits that when he writes it is the "will to live" which urges him. This volitional effort maintains the whole process of imagination as of scientific thought—a fact fully attested by the many well-known sayings touching the nature of genius. This disparity between the two spheres of imaginative activity is emphasized by one of my correspondents, a novelist known and appreciated on both sides of the Atlantic, when he writes: "There is no parity whatever between the dream-fiction and the thought-fiction, the

* Of course, it may be said that I am making a large assumption in supposing either dreams or waking combinations to be absolutely new. Much that seems new to us in a dream may be a revived past, forgotten as such; and if, with M. Pierre Loti, we extend this idea to the ancestral past, who is to say that we ever dream a new thing? This fascinating conjecture must, however, I fear, for the present be put aside as rather far-fetched.

involuntary and the voluntary ; though I dare say many people . . . would like to pretend otherwise." I venture to think that this statement is too strong, for, as we have seen, though in invention volitional effort keeps the fictive process going and maintains a critical supervision of its results, it exercises no direct control over the particular arrangements of imagery which actually arise.

(c) My last conclusion is the most tentative of all. Cases like that of Dr. Paul Heyse and of Mr. Stevenson, together with the other cases referred to of power to fashion a dream by help of a process of critical reflection, point to the existence in a few imaginative men of a rudiment of a higher kind of dream faculty, a power of giving to the dream creation a more elaborate and coherent form and a finer poetic quality. This power includes a germ of volitional control, and so is an extension into the realm of sleep of the true artistic faculty. It is conceivable that in the course of ages this rudimentary power may be evolved into a useful faculty. A writer who, having all the luxuriant wealth of dream imagery, can learn to add the plastic purpose of art, would certainly have a considerable advantage in the struggle for literary existence ; and indeed Mr. Stevenson must be grateful to his nocturnal Brownies for such brilliant suggestions as that of the transformation scene in the " Strange Case of Dr. Jekyll and Mr. Hyde." It may be, however, that the tendency to dream better than one's competitors would not prove so beneficial. If sleep ought to be brain rest, elaborate dreaming were surely a thing to be shunned. A kind-hearted person, on reading Mr. Du Maurier's clever and gracefully told dream story, is tempted to pray the author to bestow on poor Ibbetson just one good, honest sleep. Hence it may after all turn out that the great dreamers will, in the long run, be beaten by the little dreamers in the race for literary fame.

THE LANGUAGE OF CHILDREN.

BY F. TRACY, OF CLARK UNIVERSITY, WORCESTER, MASS.

HAVING spent considerable time on the study of the language of children just learning to speak, I feel justified in laying before this congress one or two points which seem to me of the greatest interest and importance.

Several studies have already been made upon child vocabularies, and results published, but, so far as I know, one essential point has always hitherto been overlooked—viz.: the phonetic arrangement of the words ; that is to say, the consideration of the *sounds* rather than the *letters*. The child's words have been classified according to the initial letter, on the basis of the traditional English alphabet. It is obvious that such an arrangement is entirely misleading as regards the real nature of the sounds uttered by the child. For example, in such a classification many words beginning with the sound of *k* are classified under *c*, because they

are spelt with a *c* (such as "corner," "come," "crown," and the like). And so the list of *k* appears small, and the conclusion is hastily drawn that this is a difficult sound for the child to make because he has but few words beginning with it as initial letter. Several other false conclusions of a similar nature are reached. It is very desirable that those who classify child words henceforth should take the greatest pains to arrange them *not* alphabetically, but phonetically.

In a careful study of some twenty-five child vocabularies, comprising nearly six thousand words, some facts have come to light different from what might ordinarily be expected, as a result of this phonetic arrangement. The *k* sound turns out to be not at all a difficult sound for the average child. As an initial sound it occupies third place in order of frequency, standing indeed above *m*, which is usually supposed to be one of the easiest of sounds.

I have several times met with the remark that the young child learns to speak largely by watching the lips of those who speak in his presence, and imitating the movements which are there visible. Hence, on this theory, those sounds will be best and earliest learned the movements involved in which are most plainly visible, and therefore most easily imitated, such as the labials, for example. This theory is not at all borne out by my observations. The *k* sound, whose movements are absolutely out of sight, is learned more readily than some other sounds whose movements are plainly visible, such as *th* in "think."

So far as I am able to judge, the earliest vocal movements are not imitative at all, or only so to a very limited extent, and are what Preyer would call impulsive movements. The child utters sounds before he is of an age to be able to appreciate and imitate the sounds and movements of others. He combines these sounds afterward in imitation of others, but the faculty of imitation seems to play little or no part in the first beginnings of infant articulation.

The consideration of the relative frequency of the different parts of speech in the vocabulary of the child also yields some interesting and valuable results.

Among those who have studied the language of children it has generally been supposed that substantives, names of things, are more readily learned than predicative words, inasmuch as they are usually more numerous than the latter in the speech of children. But it is obvious that we must take into account not only absolute but relative frequency; that is, we must not only compare the number of nouns in the child's speech with the number of verbs, but also compare the speech of the child with that of the adult, and prove that he has acquired a larger proportion of his future substantive vocabulary than of his future verb vocabulary. But according to the child words examined by me, the opposite is the case. In the vocabulary of the child of two years of age (taking the average of my

twenty-five cases), sixty per cent. of the words are nouns and twenty per cent. are verbs. But in the vocabulary of the ordinary adult, sixty per cent. of the words are nouns, while only eleven per cent. are verbs. In other words, the child of two years has made nearly twice as much progress, relatively, in the acquisition of those words that are associated with movements (verbs), as he has with the acquisition of those words that are merely names of objects.

The same is true, even to a more striking extent, when we compare the acquisition of adverbs with that of verbs. The average child makes nearly four times as rapid relative progress with the adverbs as with the verbs. It is interesting in this connection to remember that Max Müller says that the primitive Sanskrit roots of all our Indo-Germanic words originally indicated *actions*, and not *objects*.

The principle itself is one that is revolutionizing modern pedagogic methods. Its germ may be found as far back as Aristotle, whose whole ethical system is based upon the formation of good habits by constant training of the activities, and who has said that even as we learn to play on the harp by playing on the harp, so we become virtuous by doing actions of virtue, and just and brave by doing actions of bravery and justice.

APPLICATION OF THE LAWS OF PHYSICAL TRAINING FOR THE PREVENTION AND CURE OF STUTTERING.

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MY main contention is that physical training should be adequately supported and effectively organized as a co-ordinate department in our elementary and secondary schools; not simply or chiefly because of its value in promoting the health of the school population, but for the perhaps weightier reason, that as an educational discipline it lies at the basis of the most usual procedures employed by teachers to secure the ends of mental and moral training. In attempting to show the value and importance of physical training as a necessary and irreducible factor in intellectual training, I shall confine my remarks in the main to a single branch of the obviously fundamental department of language training, viz., that of the education of the organs concerned in the production of speech.

Stuttering, as is well known, is most frequent among children and youth of school age; and certain of the most authoritative writers on the subject, as, for instance, Kussmaul, the Gutzmanns, and A. Melville Bell, characterize it as a school disorder. "The schools," says Bell, "are the nurseries of stuttering." I shall have occasion further on to speak of the evidence which supports this view, and also of our reasons for believing that very much of the stuttering which infects our schools

could be abated or prevented if our educational authorities would only learn to recognize and apply those principles of physical training which underlie and determine the formation of correct and natural habits of speech. Deferring for the present the closer study of those principles, and the proper mode of carrying them into effect in the special field under consideration, let us note some of the more salient facts regarding the nature of the human body, and the general laws of bodily training.

Broadly speaking, the body is a complicated living machine for doing work. Its work is to transform potential energy into active energy. It derives its store of potential energy from the oxygen and food-stuffs furnished by the blood. Since the body is a self-building, self-sustaining mechanism, only a portion of the active energy set free by the metabolism of its tissues is available for external and internal mechanical work. A large amount of motor and molecular motion is expended in renewing and enlarging the tissues of the body, in maintaining its animal heat, and in effecting the various chemical changes incident to blood-making and blood-cleansing. In other words, the active energy expended in thinking, willing, and doing is derived from the fund of energy which is available after the fixed changes of construction, maintenance, and repair have been met. This may be characterized as the free capital of the body. From this stand-point the main end of education, speaking in general terms, is to develop, in the individuals subjected to training, the power of making the most of their fund of free capital.

Moral, mental, and physical training, each and all, aim at developing the power or faculty of acting; in the first case, of acting according to the rules of right and wrong; in the second, of acting intelligently, so that the modes of action shall be adapted to appropriate ends; and in the case of physical training, of acting as easily as possible, *i.e.*, with the least possible waste of energy in useless, irrelevant, round-about, or self-defeating movements. Since physical training aims at perfecting the body as an instrument, and at rendering it the willing, prompt, and efficient servant and minister of an intelligent mind and a sensitive and enlightened soul, it cannot be gainsaid that physical training lies at the foundation of moral and mental training, or that it enters inevitably as a more or less prominent factor into most educational procedure.

The success or failure of physical training, therefore, is not simply a question of the size and strength of the red tissues we call muscles, but is measured in part by our achievements in the domain of morals and of mind. In other words, we judge of the mental and moral worth of a man by the purpose, number, consecutiveness, and skillfulness of his habitual and ordinary acts, which acts, when viewed objectively and concretely, are reducible to more or less complicated muscular actions.

The body is a communal structure, a kind of federated union of tissues and organs, arranged so as to form general mechanisms, having

leading parts, and special mechanisms, with minor parts to play. General mechanisms, such as the circulatory, assimilative, and respiratory organs, and the nervous system, which subserve somatic needs, or the needs of the whole organism, are built up and set going first and earliest; while minor mechanisms, with more special functions to perform, as, for instance, the organs of locomotion, of manipulation, and of speech, are formed later; the greater their differentiation as to parts, and the higher their specialization as to functions, the later they are in attaining to structural completeness and full functional powers.

So largely do the master tissues of the body—as the nervous and muscular tissues have been happily named—enter into the composition of both its somatic and the special mechanisms, that the due exercise of those tissues is a *sine qua non* to the normal growth of the body and the orderly and complete development of the functional powers of all its members. That is to say, the health and effectual training of the leading and minor mechanisms of the body are largely conditioned on the amount and character of the activity of the master tissues. Now, the conjoined action of the master tissues constitutes what is ordinarily termed muscular action in exercise, since every skeletal muscle is but the executive end organ of a motor nerve cell, with which it is connected by a motor nerve. The nerve cell animates and controls the contractions of the muscle. When one acts the other acts, and the resultant action is better termed neuro-muscular action than simply muscular action. The neural part of the dual organ is said to represent the movements which the contractile moiety is capable of executing. We are all familiar with the fact that exercise of the muscles leads to an increase in their size, strength, and working power. There can be little doubt that the neural moiety of the neuro-muscular mechanisms is similarly affected by “muscular exercise;” but it would take us too far afield to marshal here the evidence which favors the view that the growth of nerves and nerve centers is measurably dependent upon such exercise. In passing, I would suggest, however, that possibly a partial explanation of the fact that man has a larger brain than woman may be found in his larger musculature, and the need of more cerebral substance to animate and regulate it. That our neuro-muscular mechanisms are functionally improved by exercise, is indisputable. Through exercise in repeated practice they become habituated to working more promptly, easily, and harmoniously with other similar mechanisms, than can unexercised organs, *i. e.*, they become trained or developed through varied and repeated exercise. It is through drill and repetition that nerve acts become habitual, then automatic, and finally, it may be, are organized, so to speak, as more or less reflex acts. It is by the practice and repetition of specially selected and properly ordered neuro-muscular actions, which have to be learned, that the apprentice is developed into a master workman, the tyro into an adept, the stammerer into a Demosthenes! The intrinsic

effects of exercise, then, are chiefly these: the heightened health of the mechanism, which involves the attainment and maintenance of a normal degree of size, strengthening working power in all its structural parts; and a more complex and special effect, in the acquisition or organization by its neural parts of responsive and orderly habits as regards the origination, transmission, and regulation of stimuli. The ends of muscular exercise may be characterized, therefore, as the promotion and conservation of health, and the formation or acquisition of well-regulated habits of action. The first is a hygienic end, and forms the basis of most of the arguments which are advanced in favor of the physical education of children and youth: the second is a distinctly pedagogic end, which is more generally overlooked than recognized. Failure to recognize and adopt the proper means of securing the educational end of exercise in the training of the several neuro-muscular mechanisms concerned in the production of speech is largely responsible, I believe, for the presence of the nervous disorder termed stuttering in so many schools.

If we compare an adult man with a new-born babe, or one of the highest of the lower animals, in respect to the movements of which they are capable, we find that they possess many in common, but that the adult man is distinguished from the infant and brute by certain movements, such as those involved in maintaining the erect posture, and in the action of the hands and vocal organs—to go no further—and that corresponding to these classes of movements there are two classes of nervous mechanisms by means of which they are represented. The neuro-muscular mechanisms above mentioned have been well termed fundamental and accessory, respectively. The law of evolution, already referred to, whereby general functions and organs are developed first, and tend to outlast the special organs and functions which are later developed, applies to the nervous system, as well as to the collective mechanisms of the body. It is a law which all who engage in education of any kind should ponder upon and be guided by. This law has been especially emphasized by Dr. Ross in his “*Diseases of the Nervous System*.” “During the evolution of the nervous system of man,” he says, “the fundamental portion is first developed. But after birth the accessory portion, which up till this time only appears in a rudimentary condition, undergoes progressive development. . . . The superaddition of the accessory portion greatly increases the multiplicity, the complexity, and the specialty of the human nervous system, and it is the latest product of its evolution.” According to the views of Dr. Ross, the movements of the fingers and hand are accessory as compared with the larger movements of the elbow and shoulder. Among the fundamental neuro-muscular mechanisms which are well organized in the new-born infant are those concerned in the circulation and ventilation of the blood.

Mercier, an English alienist, classifies movements, “which he defines as any set of co-ordinated muscular actions,” as either central or peripheral;

these categories being approximately identical with the fundamental and accessory movements of Ross respectively. Central movements are those of the diaphragm, trunk, shoulder, and hips; among peripheral movements are those of the digits, mouth, and eyes. Among typical central movements are included those involved in walking, riding, swimming, rowing, bicycling, and various feats of gymnastics; typical peripheral movements include such as those concerned in articulation, writing, violin playing, and sewing. Central movements form the course adjustment for the movement of the more peripherally situated parts. Intermediate movements are characterized as "more central" or "more peripheral," as the case may be. Central movements, according to Mercier, are represented in the lower or more central portions of the brain; and peripheral movements are represented in "higher level centers," which have been developed later than the "lower level centers." "The cerebellum," says Mercier, "represents first and most the most central muscles. The cerebrum represents first and most the most peripheral muscles. The cerebellum maintains a continuous same action, the cerebrum breaks up the continuous same action into interrupted and various movements. The cerebellum actuates co-ordination (*i.e.*, combinations of movements by different groups of muscles) in simultaneity, the cerebrum actuates co-ordinations in succession. . . . Centers representing movements of the extreme periphery are most superficially situated in the *cortex cerebri*. . . . Centers representing the several segments of a limb are superposed on one another; the centers representing the most central movements being most centrally situated, and those representing the more and more peripheral movements being placed one above another towards the surface of the brain."

It remains to point out the application of certain of the facts and arguments thus far set forth to the production of normal and disordered speech. Mercier has nothing to say regarding stammering and stuttering, but his description of the movements involved in speech is in point here. "In vocal utterance there are three sets of movements," he says, "those of breathing, those of phonation, and those of articulation. Breathing is effected mainly by the most central of all muscles, and its movements occur in simplest succession and in brief and simple rhythm. Voice is produced mainly by movements of the larynx—movements that are midway between the central movements of breathing and the peripheral movements of articulation; and the sequence of these movements is intermediate in complexity between those of breathing and those of articulation. . . . Now advance to the extreme periphery and take the movements of articulation. Each spoken word, like each written word, requires for its formation several movements succeeding each other in definite order at definite intervals; and each sentence is a long sequence made up of many such short sequences arranged in a definite order. The number of different movements of the articulatory apparatus that go to

make up even a short speech is therefore enormous, and these movements and sequences of movement occur rarely, and at intervals that are extremely irregular.

It is important to note here that the three sets of neuro-muscular mechanisms mentioned above are not of the same order. The organs of respiration are the most central or fundamental of the series. The organs of phonation, which give vocal character to the stream of expired air from the lungs, are intermediate, and their neural mechanisms are, therefore, to be considered as accessory in comparison with those of the breathing organs, but relatively fundamental in comparison with the centers which represent the movements of the more peripheral organs of articulation. It is indisputably certain that the young child learns to breathe and cry aloud before it can speak, and that there is a progressive development in his power to imitate and reproduce the consonant sounds, after he has begun to speak. It seems to me that we may safely aver that the law of the evolution of the nervous system is of great pedagogical importance, since it suggests the natural order which should be followed in training the organs concerned in any complex co-ordinated movements. For instance, it is transgressing the laws of nature to emphasize the training of the fingers before the neuro-muscular mechanisms of the hand, arm, and shoulder have become thoroughly organized, and their respective movements been brought under control; or to attempt to teach a child to read aloud before he has learned to speak plainly and readily. Dr. H. Gutzmann declares that in fully half of the children who enter school the power of speech is undeveloped.

Dr. Ross has criticised the tendency to follow an inverted or unnatural order in education, as follows: "Until a few years ago the natural order of development was reversed in the education of youth, and especially in female education, so far as this could be accomplished by human contrivance and ingenuity. . . . No sooner had what is technically called education begun than the professional trainer began to exercise the small muscles of vocalization and articulation, so as to acquire the art of reading; the small muscles of the hand, so as to acquire the art of writing; and, in the case of young ladies, the still more complicated movements necessary in running over the keyboard of the piano; while little attention was paid to the development of the larger muscles of the trunk and lower extremities, upon the full development of which the future comfort of the individual depends."

Stuttering is generally recognized now, by all competent persons, as a neurosis or functional disorder of one or another of the neuro-muscular mechanisms concerned in vocal utterance. Professor Kussmaul, of Strasburg, whose book, "*Die Störungen der Sprache*," deservedly enjoys the highest reputation, defines it as follows—I quote from the English translation of Ziemsen's "*Cyclopædia*," vol. xiv.: "Stuttering is a *spasmodic neu-*

rosis of co-ordination which obstructs the utterance of the syllables by spastic contractions at the stop-points for vowels and consonants in the articulating tube. . . . If we examine more closely the *processes* that interfere with the proper sequence of syllables in stuttering, we shall find that the three muscular actions, the expiratory, the vocalic, and consonantal, which are combined in the enunciation of sentences, are not harmoniously co-ordinated. . . . These three muscular actions are not correctly balanced with regard either to the force or the duration of the contractions. On the one hand, the respiratory action required for speech is defective, and on the other, the tension of the vocalic or consonantal muscles is spasmodically increased." Clouston, in his book "On the Neuroses of Development," assigns stammering and backwardness of speech a prominent place in the neuroses peculiar to what he denominates the period of most rapid brain-growth, of special sense education, and of the development of the leading motor co-ordinations, viz., from birth to seven years of age.

Though any one or all of the series of organs concerned in speech may be affected in one who stutters, the primary vice is so often uncontrolled respiration, that the first procedures employed by those who are most successful in the treatment of stuttering consist of respiratory gymnastics. In other words, they begin by training the most fundamental mechanisms in order to restore co-ordination, thus instinctively, if not willingly, taking the law of evolution as a guide. It would be an easy matter to multiply citations showing how largely gymnastic measures are employed in the cure of the stuttering habit, especially in the severer cases in which involuntary spasms of the facial, throat, and other muscles constitute a marked and trying feature; but it seems to be sufficiently clear from what has been said, that, both in preventing and in abating stuttering, we must needs apply the principles of rational physical training. The training of the speech-producing organs is essentially a special branch of physical training. I hold that if the motor education of the youngest children in our schools were properly organized in the departments of free play and gymnastics, very much stuttering would be prevented. Effectually to prevent the development and spread of stuttering, more radical measures are called for.

In this connection, the opinion of Professor A. Melville Bell should carry weight. So long ago as 1866 he wrote as follows: "No part of education is, in general, so lightly esteemed as that of first learning to speak and read; yet, rightly considered, none is of more consequence. The first governess, tutor, or schoolmaster should be a model of distinctness in his own practice, and should be also intimately acquainted with the physiology of articulation, that he may, both by wise precept and potent example, mold the plastic mouth to grace, and give easy play to the delicate machinery of speech. *With proper initiatory training and school surveillance, stammering and its train of silent errors would be altogether unknown.*"

The literature on stuttering is voluminous; much of it, owing to the

wide prevalence of stutter-doctors and fanatical elocutionists, is unscientific and worthless. The subject has not hitherto received the attention which it deserves from the teaching class and those to whom teachers turn for inspiration and guidance. Strange to say, our educational literature, so far as I can ascertain by inquiry and search, does not contain a comprehensive and satisfactory statement of the psycho-physics of reading aloud. Yet psychology is a shibboleth in our normal schools. Recently, however, thanks to the well-directed efforts of A. Gutzmann, an accomplished and successful teacher in the City School for Deaf Mutes in Berlin, a hopeful and growing movement has arisen in Germany for training ordinary school-teachers to attack the stuttering habit in its breeding-ground, namely, the elementary school. Those who desire to inform themselves fully regarding this movement in Germany, will do well to consult the "Zeitschrift für Schulgesundheitspflege," and Gutzmann's "Medizinisch-pädagogische Monatschrift für die Gesammte; Sprachheilkunde," now in its fourth volume. Among recent works on stuttering, Dr. H. Gutzmann's "Vorlesungen über die Störungen der Sprache und ihre Heilung," Berlin, 1893, easily holds the first place. It contains a bibliography numbering four hundred and thirty-nine titles.

Having failed to find any satisfactory statement as to the frequency of the stuttering habit in American schools, I instituted a statistical investigation on my own account as to the number, sex, and age of the stutterers in the public schools of Boston. The results of the returns made by the teachers are set forth in the appended tables.*

TABLE I.

SHOWING NUMBER AND PERCENTAGE OF STUTTERERS, BY AGE AND SEX, IN BOSTON PUBLIC SCHOOLS, MAY 1, 1893.

1. AGE.	2. Total number of pupils.	3. Total number of stut- terers.	4. Per cent. of stut- terers.	5. Number of boys at each age.	6. Number of boys who stutter.	7. Per cent. of boys who stutter.	8. Number of girls at each age.	9. Number of girls who stutter.	10. Per cent. of girls who stutter.
Under 4	251	0	0.00	125	0	0.00	126	0	0.00
" 4	1,184	6	0.52	581	4	0.68	603	2	0.33
" 5	3,695	12	0.32	1,987	9	0.45	1,708	3	0.18
" 6	5,432	44	0.81	2,857	33	1.15	2,575	11	0.42
" 7	5,958	52	0.87	3,134	36	1.11	2,824	16	0.56
" 8	6,081	59	0.97	3,221	44	1.36	2,860	15	0.46
" 9	6,021	44	0.73	3,059	36	1.11	2,962	8	0.26
" 10	6,237	47	0.75	3,310	33	0.99	2,927	14	0.47
" 11	5,822	40	0.68	3,050	29	0.99	2,772	11	0.36
" 12	6,157	51	0.82	3,229	37	1.14	2,928	14	0.43
" 13	5,649	54	0.95	3,053	43	1.40	2,596	11	0.36
" 14	4,505	38	0.84	2,433	28	1.10	2,062	10	0.41
" 15	3,105	25	0.80	1,546	19	1.22	1,559	6	0.38
" 16	1,672	18	1.07	780	13	1.66	892	5	0.64
" 17	923	3	0.32	397	3	0.76	526	0	0.00
" 18	392	3	0.76	145	2	1.37	247	1	0.40
" 19+	290	4	1.37	51	4	7.84	239	0	0.00
	63,374	500 or 0.78%		32,958	373 or 1.13%		30,416	127 or 0.41%	

* Since the meeting of the Congress at Chicago, I have had a second census of stutterers made, and have compiled the tables of growth and death rates given herewith.

The above table shows the distribution by age and sex of the "habitual stutters" in the Boston public schools in May, 1893. In calculating the percentage of stutters I was obliged to employ the figures given in columns 2, 5, and 8, which stand for the number of pupils at each age belonging to the schools on January 31, 1893. The percentages printed full-faced type should be particularly noted, since it would appear that the maximum incidence of stuttering is not even relatively similar for boys and girls of a given age. The percentage of stutters to total number of pupils is 0.78; that of boys who stutter, to total number of boys, is 1.13, and the corresponding percentage of girls is 0.41. These results agree with the statements of various European observers; viz., that stuttering is about three times as frequent among males as among females. The table also shows, what has frequently been noted, that stuttering is most frequent at the period of second dentition, and at the onset of puberty, which are periods when the nervous system is specially susceptible to disturbance.

TABLE II.

SHOWING NUMBER AND PERCENTAGE OF STUTTERS, BY AGE AND SEX, IN BOSTON PUBLIC SCHOOLS, DERIVED FROM ENUMERATION OF MAY 1, 1893, AND JANUARY 31, 1894, TAKEN TOGETHER.

1. Age.	2. Total number of pupils.	3. Total number of stut- ters.	4. Per cent. of stut- ters.	5. Number of boys at each age.	6. Number of boys who stutter.	7. Per cent. of boys who stutter.	8. Number of girls at each age.	9. Number of girls who stutter.	10. Per cent. of girls who stutter.
Under 4	568	0	0.00	262	0	0.00	306	0	0.00
" 4	2,909	9	0.37	1,217	6	0.49	1,292	3	0.23
" 5	7,793	37	0.47	3,189	29	0.90	3,604	8	0.21
" 6	11,253	81	0.71	6,007	67	1.11	5,246	14	0.26
" 7	12,104	89	0.73	6,317	62	0.98	5,787	27	0.46
" 8	12,333	112	0.90	6,502	84	1.29	5,831	28	0.48
" 9	12,107	90	0.74	6,208	68	1.08	5,899	22	0.37
" 10	12,360	96	0.77	6,515	71	1.00	5,846	25	0.42
" 11	11,811	84	0.71	6,201	65	1.04	6,612	19	0.28
" 12	12,256	107	0.87	6,458	78	1.20	5,798	29	0.50
" 13	12,783	102	0.86	6,237	81	1.29	5,446	21	0.38
" 14	9,212	84	0.91	4,982	57	1.14	5,236	27	0.51
" 15	6,231	50	0.80	3,124	37	1.14	3,111	13	0.41
" 16	3,560	36	0.95	1,666	28	1.67	1,899	8	0.42
" 17	1,903	8	0.41	863	6	0.69	1,038	2	0.19
" 18	1,012	5	0.49	586	3	0.51	544	1	0.30
" 19+	653	8	1.07	121	7	0.57	532	1	0.18
	129,060	998 or 0.77%		67,287	749 or 1.11%		61,773	249 or 0.40%	

This table is comparable to Table I., but differs from it in that it is an analysis of the returns of the enumeration made January 31, 1894, and of that made May 1, 1893, combined. On January 31, 1894, the total number of stutters in 65,686, the total number of pupils, was 498, or 0.77 per cent. Of the total number of stutters there were 376, or 1.11 per cent., in 34,290 boys, and 122, or 0.40 per cent., in 31,396 girls.

TABLE III.

SHOWING PERCENTAGE OF STUTTERERS TO WHOLE NUMBER OF BOYS, OF GIRLS, AND BOYS AND GIRLS IN EACH GRADE, BY CLASSES, IN THE BOSTON PUBLIC SCHOOLS.

		KINDERGARTEN GRADE.	PRIMARY GRADE.				GRAMMAR GRADE.						High School Grade.
			Class III.	Class II.	Class I.	Un- graded Class.	Class VI.	Class V.	Class IV.	Class III.	Class II.	Class I.	All Classes.
1893.	Total....	0.55	0.86	0.89	0.76	0.50	0.79	0.80	0.76	0.80	0.76	0.71	0.73
May 1.	Boys....	1.05	1.13	1.55	1.14	0.77	1.23	1.01	1.09	0.98	0.95	1.24	1.43
	Girls....	0.08	0.54	0.41	0.35	0.00	0.31	0.55	0.43	0.56	0.37	0.16	0.16
1894.	Total....	0.27	0.69	0.82	0.90	0.85	0.76	0.74	0.61	0.97	0.91	0.80	0.64
June 31	Boys....	0.48	1.00	1.17	1.26	1.46	1.22	1.16	0.81	1.28	1.33	1.30	0.99
	Girls....	0.07	0.32	0.40	0.50	0.00	0.24	0.28	0.40	0.65	0.51	0.34	0.30
1893	Total....	0.41	0.77	0.86	0.95	0.69	0.78	0.78	0.68	0.88	0.78	0.75	0.71
and	Boys....	0.75	1.06	1.25	1.06	1.10	1.23	1.08	0.94	1.13	1.14	1.27	1.20
	Girls....	0.08	0.43	0.41	0.43	0.00	0.28	0.43	0.41	0.62	0.44	0.25	0.23

The above table is constructed to show the percentage distribution of the stutterers of each sex, and of the two sexes combined, in the different grades. The marked increase of stutterers in the primary grades, in the very beginning of instruction in reading aloud, is noticeable and highly significant.

TABLE IV.

SHOWING THE PERCENTAGE DISTRIBUTION, BY AGE AND SEX, OF SLIGHT AND SEVERE STUTTERERS IN THE BOSTON PUBLIC SCHOOLS IN 1893 AND 1894.

	SLIGHT STUTTERERS.			SEVERE STUTTERERS.		
	Boys.	Girls.	Total.	Boys.	Girls.	Total.
Under 4	0.00	0.00	0.00	0.00	0.00	0.00
4 years	1.03	1.88	1.20	0.38	0.00	0.27
5 "	5.19	1.25	4.21	1.52	6.23	2.79
6 "	11.22	6.28	10.00	2.67	10.41	4.74
7 "	9.97	11.94	10.46	5.34	8.33	6.14
8 "	11.85	13.83	12.34	10.30	6.23	9.18
9 "	8.52	8.17	8.43	10.30	9.37	10.05
10 "	9.77	7.54	9.37	9.16	13.56	20.33
11 "	8.73	9.43	8.90	8.77	4.16	7.54
12 "	9.14	11.94	9.84	12.97	10.41	12.29
13 "	9.14	7.54	8.75	14.12	9.37	12.54
14 "	8.10	9.43	8.43	6.87	12.50	8.37
15 "	3.51	5.03	3.90	7.33	5.20	6.98
16 "	2.91	3.14	2.81	5.72	3.12	5.02
17 "	0.20	0.62	0.31	1.90	1.04	1.67
18 "	0.20	1.25	0.46	0.76	0.00	0.55
19 "	0.62	0.15	1.52	0.00	1.11

No attempt was made to have the teachers distinguish between stammerers and stutterers, as the distinction is not generally apprehended in English-speaking countries. Every stutterer whose name was returned was, however, characterized as "slight" or "severe." The result of analyzing the returns, in accordance with the distinction noted, is set forth in

Table IV. The greater frequency of slight stuttering during the period of second dentition, and of severe stuttering near the onset of puberty, is shown by the figures in bold type. This fact seems to me to be of considerable importance.

TABLE V.

SHOWING RELATIONS OF FREQUENCY OF STUTTERING, ACCORDING TO SEX AND AGE, TO DEATH-RATES AND GROWTH-RATES AMONG BOSTON SCHOOL CHILDREN, AND CHILDREN OF SCHOOL AGE.

	Death rate, Males and Females, 1875, 1885, 1890.	Death rate, Males, 1875, 1885, 1890.	Per Cent. Increase in Height, Boston Boys, 1875.	Per Cent. Increase in Weight, Boston Boys, 1875.	Per Cent. in Weight Boston Girls, 1875.	Per Cent. Increase in Height, Boston Girls, 1875.	Death rate, Boston Girls, 1875-1885-1890.	Per Cent. of Stutterers, Boston School Girls, 1883-1894.	Per Cent. of Stutterers, Boston School Boys, 1883-1894.	Per Cent. of Stutterers, Boston School Boys and Girls, 1883-1894.
	1	2	3	4	5	6	7	8	9	10
4.	21.14	20.71				4.00	21.55	0.23	0.49	0.37
5.	15.65	14.85	5.20	10.25	8.88	4.08	16.44	0.21	0.90	0.47
6.	13.39	13.40	4.58	8.78	9.69	4.58	14.38	0.26	1.11	0.71
7.	9.49	9.35	4.38	9.86	8.88	3.72	9.62	0.46	0.98	0.73
8.	7.10	6.09	4.03	9.79	10.68	3.98	8.11	0.48	1.29	0.90
9.	6.26	7.41	4.04	10.40	9.26	4.06	5.11	0.37	1.08	0.74
10.	5.00	4.77	3.12	7.43	10.24	4.56	5.23	0.42	1.00	0.77
11.	3.76	4.28	3.39	9.74	13.78	4.08	3.23	0.28	1.04	0.71
12.	3.87	3.44	3.78	10.31	12.23	3.11	4.30	0.50	1.20	0.87
13.	5.19	4.18	4.68	11.66	10.94	1.90	6.17	0.38	1.29	0.86
14.	4.90	3.98	4.01	13.02	7.83	0.77	5.83	0.51	1.14	0.91
15.	5.61	5.31	1.75	12.96	5.61	0.51	5.89	0.41	1.14	0.80
16.	6.57	6.58	0.77	5.23	3.14		6.57	0.42	1.67	0.95
17.	7.22	6.43		3.97			7.94	0.19	0.69	0.41
18.	8.17	10.40					6.32	0.30	0.51	0.49
19.	10.37	10.25					10.48	0.18	0.57	1.07
20.	8.72	11.21					6.95			

From measurements made in 1875 of some twenty-five thousand children of the Boston public schools, Professor H. P. Bowditch, of the Harvard Medical School, determined that the growth-rates of the two sexes differ from one another; that the pre-pubertic growth of girls in height and weight begins earlier, proceeds faster, and culminates sooner than is the case with the pre-pubertic growth of the boys. Table V. shows that the death-rates of Boston boys and girls vary; *i.e.*, that the years of age in which lowest death-rates occur are not identical, being for the three census years 1875, 1885, 1890, the year eleven to twelve for girls, and twelve to thirteen for boys. And, in general, that the years of greatest growth grouped together are the years of lowest death-rates. It is of interest to note that the largest percentage figure for stuttering among girls is at the age of twelve, or the year following the lowest death-rate among girls; and that thirteen to fourteen, the year in which the largest number of stuttering boys is found, is the year immediately following the year of their lowest death-rate, *viz.*, twelve to thirteen. It may be that greatest susceptibility of each sex to the special neurosis of stuttering is closely related to the condition of the body when its power of greatest resistance to death begins to decline.

DISCUSSION.

By A MEMBER: May I ask a question? I have noticed that a great many pupils who stutter, some of them very badly, in reading or talking, in singing seem to sing as readily as any other people. I would like to know the real cause of it.

DR. HARTWELL: In the use of the voice in speaking we have the very irregular rhythm, and we have none of the benefit of the rhythmic series of discharges from the cells to help to carry the stimulus over the point where the check comes, as it does come upon particular letters and sounds, from positions of the vocal organs where those are concerned in the production of voice or articulation.

By A MEMBER: I should like to speak of one point in connection with the curve, to call attention to the general correspondence of the curve which Dr. Hartwell obtains between the ages of twelve and sixteen, and that which I have obtained with respect to voluntary motor ability. There is a maximum at the age of thirteen or fourteen, followed by a sharp descent, and I think I have observed that the ascent and descent are sharper in the case of girls than in the case of boys, and that it is followed by an ascent at the age of sixteen. This is a parallel to some extent to the result obtained in the measurements of height and weight of children. I do not know to what extent further investigation might show these things to be connected, but it certainly is a point of some interest, I think.

By A MEMBER: Will Dr. Hartwell tell us what he means by the second and third stages of neuro-muscular development?

DR. HARTWELL: I suppose I used those terms for the lack of any other. That is to say, neuro-muscular development may be divided into stages, which shall correspond more or less closely with the physical changes which characterize the stages of infancy, childhood, adolescence, and so on. That is all that I meant. I did not mean that there was accurate law to develop, with regard to which the developed neuro-muscular mechanism of the coarse and fine adjustments respectively has been worked out. I am perfectly satisfied, and could show from neurologists that it is generally held that there is such a development. Its stages and steps and lines of demarkation remain to be worked out from further investigation, in which we can all take part.

OBSERVATION AND STUDY OF MOVEMENT AND MENTAL STATUS.

BY FRANCIS WARNER, M.D., LOND., F.R.C.P., ENG., PHYSICIAN TO THE LONDON HOSPITAL.

At the request of your committee, I have the honor to present some results of observation and study of movements in children as indications of mental status, with remarks on the adaptation of educational methods to the mental peculiarities of certain children. My difficulty has been to select the material and to present new work, with explanation of the facts seen, and the teaching they suggest, while preserving due limits to my thesis. The observations are drawn from my report on fifty thousand children whom I inspected in various schools, which has been published by the Washington Bureau of Education. It seems to me that our knowledge of children and their educational requirements should be based upon observation of the children themselves; such knowledge I have endeavored to acquire by individual inspection, as follows:

The children are best observed in a large and well-lit room. They are drawn up in ranks, a "standard" (grade) at a time, so that the observer

can see each child individually. To fix the child's eyes while he is under observation it is convenient to hold up some object for him to look at. I use a shilling at the end of a pencil. The children are then asked to hold their hands straight out in front of them with the palms toward the floor, and for a moment the action is done before them. At each stage of the investigation children that present deviations from the normal are asked to wait with the teacher. Each selected child is reexamined individually, and a schedule is filled in describing the points seen, while the teacher's report of mental status is subsequently written in. Nine thousand one hundred and eighty-six cases were thus recorded.

This inquiry was specially arranged for the enumeration and classification of children below the normal standard, and notes were taken on such cases only. It is gratifying to find that boys 79.3 per cent. and girls 84.5 per cent. were normal in body and in nerve condition; the proportion of normal children is the foundation of a national educational and social system, while the abnormal present a social danger.

Now as to the points observed—passing over the individual defects in development of the body (physiognomy, cranium, palate, ears, etc.)—I shall only refer to children presenting such defects as “development cases.”

Movements and postures of the parts of the body are indices of the action of portions of the nerve system (nerve centers) corresponding; abnormal actions of this class are termed “nerve signs”; children presenting one or more nerve signs are called “nerve cases.” The most frequent nerve signs may now be defined; their frequency among the fifty thousand children and the co-relations indicate their significance.

General balance defective.—Under this heading are entered cases when the balance at the body is asymmetrical as to spine, shoulders, feet, etc.; shoulders at unequal height, back bent, slouching gait.

Expression defective.—Without expression, as in a paralyzed face; one constant unchanging appearance; want of changefulness; vacancy; a fixed look—or it may be a fixed, unchanging bad expression. No anatomical definition can be given.

Frontals overacting.—The frontal muscles produce horizontal creases in the forehead, which may be strongly marked if these muscles overact coarsely. Sometimes the muscles are seen working under the skin in vermicular fashion, with an athetoid movement. In other cases the action is fine, producing what may be called a dull forehead. This over-muscular action does not necessarily erase expression.

Corrugation.—Knitting the eyebrows; contracting the eyebrows. Vertical creases are thus produced. This may coexist with overacting frontal muscles.

Orbicularis oculi relaxed.—There is a thin muscle, the orbicularis oculi, which encircles the eyelids; its tone gives sharpness to the curvatures of the lower lid, so that its convexity is seen. Its action is increased in

laughter; when this muscle is relaxed there is a fullness or bagginess under the eyes.

Eye movements defective.—Some children, when an object is moved in front of them, follow it not with their eyes only, but with the head, keeping the eyes fixed. In other cases there is restless wandering of the eyes, which do not fix well on the object looked at.

Head balance weak.—In the normal the head is held erect. In these cases it lolls over to one side or other or droops forward.

Hand balance nervous.—In these cases, when the arm is extended forward, the wrist droops, the palm is slightly contracted laterally, the thumb and fingers are extended backward at their junction with the palm of the hand.

Hand balance weak.—In this type of balance the wrist is slightly drooped, the palm contracted laterally, and the digits are slightly bent. A frequent sub-type is for the hand to be straight except as to the thumb and its metacarpal bone, which are drooped or somewhat adducted toward the palm.*

Finger twitches.—This may be observed when the hand is held out, particularly if the fingers are separated. The twitches may be up and down, or lateral.

Lordosis.—In those cases, when the hands are held out, an altered balance of the spine may be seen, with an arching forward of the lumbar region, while the upper part of the body and the shoulders are thrown back.

Other nerve signs.—Signs less frequent, though not of less importance, are here given as one group, including such as the following: Slowness of action in response to a command, as when the children are told to hold out their hands; uncertainty or irregularity in response to such command; defects of speech; oversmiling or grinning; openness of mouth; tremor-oversmiling or grinning; nystagmus.

Movement in man has long been a subject of profitable study. Visible movement in the body is produced by muscular contraction, following upon stimulation of the muscles by efferent currents passing from the central nerve system. Modern physiological experiments have demonstrated that when a special brain area discharges nerve currents, these are followed by certain visible movements or contraction of certain muscles corresponding. So exact are such reactions, as obtained by experiment upon areas in the brain cortex, that movements similar to those produced by experimental excitation of a certain brain area may be taken as evidence of action in that area. Movements are then the visible signs of action in certain brain areas corresponding, and form our data for the study of brain action.

* In the normal, when the hand is held out, all parts are in the same horizontal plane. The limb is then held on a level with the shoulder, without flexion at elbow, wrist, or other joint.

Postures or attitudes of the body depend upon the ratios of nerve-muscular action, and to some extent indicate the ratios of force produced by the nerve centers concerned.

The "nerve signs" given above are movements and postures which ample experience shows may be taken as indices of the nerve state.

All expression of mental action and mental states is by movement and results of movement, whether by acts done, gesture and facial expression, speech or writing. It is by the careful observation and analysis of movements that we may hope to determine the kind of cerebral action corresponding to mental states. In mental research we must study not only the simple movements already described, which I have employed in school inspection; but also series of movements, the time and quantity of individual acts, their antecedents and sequents, need description.

Spontaneity of Movement in Children.—Common observation affords abundant evidence that the members and parts of a healthy infant present constant movements. When the infant is awake, movements without any known stimulation through the senses may be seen in the limbs, especially in the digits or small parts; they are slower than most of the movements of adults and are almost constant. They occur in no apparent order, but appear to be quite irregular. A short period of wakefulness is usually followed by sleep, indicated by subsidence of all movements except those of respiration, and closure of the eyelids.

Reënforcement of Movements.—A series of movements may occur sequential to some stimulus, in which the final movement is much stronger than the force of the primary stimulus, each group of movements as the series progresses increasing in number and in force. It is the spreading area of movement, or the increasing number of parts moving as the action proceeds, that is here specially indicated, such augmenting series of movements being started by a very slight stimulus. The prick of a pin or a sharp word to a child may be followed by depression of the angles of the mouth, alternate tonic contraction and relaxation of the muscles of the limbs, altered respiratory movements causing screaming, flushing of the face, and finally spasmodic contractions spreading over the body. Such action I have termed "reënforcement of movements." In the pupil and adult this is antithetical to good coördinated action and good mental action, often being accompanied by mental confusion.

When the hands are held out, if thrust violently forward, there may be accompanying finger movements; the head may be coincidentally inclined to one side. When spoken to, the head may be inclined or the tongue protruded, as I have seen in examinees. Such habits are examples of reënforcement of movement, and are bad economy of nerve force.

Inhibition of Movement.—When the infant is five or six months old, the sight of an object may arrest spontaneous movement, and this may be followed by or replaced by turning of the head, the eyes, and the

hands toward the source of light or sound. Thus we see inhibition of movement followed by new *coördinated action*.

The endeavors of brain training are directed to bringing about the coördination of the nerve centers, and in young children spontaneous action must for this purpose be temporarily inhibited; yet it must always be remembered that it is only their spontaneous action that you can coördinate and train. Encourage spontaneity, then train it. Coördinated action in the child must ever be aimed at in education; the child's spontaneity and movements must be controlled by school discipline. This is principally effected through the eye and the ear, by sight and sound. I find the methods used vary much; the best teachers control mostly through the eye. It seems to be thought easier to check spontaneity of movement in tongue, hands, and eyes, through the ear; hence the school bell, the cane struck on the table, and the whistle sometimes used, and principally the word of command, in which the teacher's voice as well as words used are sometimes ill adapted to the purpose in view. My experience is that all the noises and the vocal command often produce reinforcement of movement, with mental confusion when direction through the eye translates this spontaneity, or a part of it, into preparedness for mental action and coördinated movement. In the best classes, I have seen silence and quietness of action with commencement of the proper work by the children effected by the teacher's gesture without a word spoken—a great saving of energy to pupils and teacher. Further, I have often found that classes whose movements are habitually controlled by verbal command are more apt to present abnormal nerve signs when they are inspected singly, than children that are mainly controlled through the eye.

Imitation is the great means of control. Let a teacher present an ill-balanced hand or head, many of the children will be seen to follow. Every movement, every mode of balance in the teacher tends to repetition in the class. Children tend to imitate much from one another, especially the bright ones; hence the importance of classification and proper grouping of children in school. Children naturally tend to exact imitation of teachers' movements; hence some teachers hold out the right hand for imitation by the child's left. No wonder there is often a mental confusion in pupils as to which is their right hand. Facial gesture, expression, frontal overacting, etc., may often be controlled and temporarily removed by a face that smiles at them, which the child imitates; a command to cease the grimace is apt to be followed either by its increase or by arrest of all spontaneity.

Having described certain abnormal nerve signs and shown that they correspond to certain brain states, let me show their significance as to the bearing of movement on mental status. Of 5,487 children presenting "nerve signs," 2,250 were reported by the teachers as dull mentally—i.e.,

forty-one per cent. If the nerve signs were removed, the brain would be in better order and probably the mental action would be brighter.

With so difficult a problem before us as the means of improving these children's brains, we must take the "nerve signs" separately. Say, the boy who is dull at lessons also shows "frontals overacting." You wish to lessen this sign. Observe: Is it more or less frequent and marked when he is spoken to, or when he is controlled through the eye; when doing arithmetic, or when receiving an oral lesson? Is it more marked before lessons or in history class? You will soon find out under what conditions the sign is least developed. From my own observations I think this sign most frequent when the child is least under mental influences. You see the lower eyelids full and baggy. This sign is a frequent accompaniment of brain exhaustion, with or without headaches; it may be due to late hours over-night, to prolonged work or to ill ventilation at home or in school.

Children in whom mental processes are otherwise active are often bad and inaccurate readers because they have never been trained to move their eyes well; they are also bad observers, and if the eyes move much spontaneously they see objects imperfectly, and need eye-drill, which should occupy an important place in the infant school. This defect can usually be overcome. So when the nerve signs are recognized they can be attacked in detail. There are two great groups of "nerve cases": those with accompanying defects in development—*i.e.*, "development cases with nerve signs"—and "nerve cases without development defects." Of the former group forty-three per cent. were reported as dull; of the latter, only thirty-nine per cent. In this last group, removal of nerve signs is more hopeful.

There are two results to be sought by good training. The normally developed children should not present abnormal nerve signs; while for those of defective development much may be done to remove such signs. It is also desirable to lessen mental dullness. An assessment of the results of training in a given school may be made by observation and report as described, from which calculations may be made contrasting educational results in this school with others.

It may be shown that in some respects boys differ from girls in their constitutional tendencies; girls present a larger proportion of the normal. "Development defect cases" among girls present a smaller proportion with nerve signs than among boys; but these girls suffer more from low nutrition and mental dullness. There are fewer ill-made girls than boys, but the girls of constitutional low make tend in larger proportion to bodily and mental feebleness.

(Tables were appended to this paper giving further detailed information. The work of investigation is being continued by a committee appointed by the International Congress of Hygiene and Demography; and the secretary, C. W. Wallis, Esq., Parkes Museum, London, W., will be glad to supply the tables and any other information asked for.)

SOME ASSOCIATION TRACKS INVOLVED IN READING AND SPELLING.

BY THOMAS M. BALLIET, SUPERINTENDENT SCHOOLS, SPRINGFIELD, MASS.

It is a fact fairly well established that the impressions received through the different senses are perceived by different areas, or "centers," of the cortex; and in like manner the process of ideation, or recalling these sense impressions, is carried on by various centers, located for each sense probably in the same general region of the brain in which the impressions of that sense are perceived; if indeed ideation is not a function of the very same groups of cells which perform the process of perception. Concepts of objects of sense are therefore reproduced in memory through an activity of these centers of ideation; and a complex concept, such as that of an orange, gained through a number of senses, involves for its complete recall an activity of a number of different areas of the cortex.

In like manner it is fairly well established that special groups of cells or centers have been differentiated in the cortex for the purpose of language. The facts of aphasia show quite clearly that there is a word-hearing center, a word-seeing center (a reading center), a speaking center, and a writing center.

The different centers of ideation are connected by fibers, or association tracks, which make it possible for one center to arouse to activity all the others. It is in virtue of these association tracks that an entire concept, consisting of ideas gained through a number of senses, can be recalled as a whole and appear in consciousness as a unit. In this way the visual perception of a piece of granite recalls its hardness, its roughness, its weight, and other qualities, in idea. When these association tracks are disturbed or destroyed by disease, the person perceives an object without recognizing it as having ever been perceived by him before and without recalling any of its uses. In short, he suffers from what is pathologically termed *apraxia*.

Like the centers of ideation, the various language centers are connected together by association tracks, both with one another and with the centers of ideation. If these association tracks, or the centers themselves, are injured by disease, there arise various disturbances of speech, known as *word-deafness*, *word-blindness*, *aphasia proper*, and *agraphia*.

Without aiming at an exhaustive enumeration, I may say that the most important of the association tracks involved in the use of language are the following:

(1) In hearing spoken language, an association is made (*a*) between the oral word in the auditory word center and the ideas constituting a con-

cept in the centers of ideation ; (*b*) between the spoken words as they follow one another in groups.

(2) In talking, there are at least three association tracks involved : (*a*) Between the muscular movements of the vocal organs and the thought, or between the motor speech center and the centers of ideation ; (*b*) between the oral word and the muscular movements of the vocal organs, or between the auditory speech center and the motor speech center ; (*c*) between the successive muscular movements of the vocal organs in uttering words in groups or sentences.

(3) In writing, the following seem to be the principal associations which are, or ought to be, made : (*a*) Between the thought and the muscular movements of the hand in writing it, or between the centers of ideation and the writing center ; (*b*) between the visual or printed form of the word and the muscular movements of the hand in writing it, or between the visual word center and the writing center ; (*c*) between the auditory word center and the visual word center ; (*d*) between the visual word center and the muscular movements of the hand in writing.

(4) In reading, there are, or ought to be, at least three associations made : (*a*) Between the printed word and the thought, or between the visual word center and the centers of ideation ; (*b*) between the oral word and the printed word as wholes ; (*c*) between the separate letters and their corresponding sounds ; these last two involving association tracks between the visual and auditory word centers.

The more unconsciously these associations are made, the better the teaching. It is a serious fault of education that many of them are still made with far more consciousness than is necessary.

As the language centers are differentiated in each individual human being, and are therefore, at least as far as the reading and the writing centers are concerned, not inherited to any great extent, it follows that the order in which the association tracks shall be established depends mainly on the method of education. Moreover, the order in which they are established determines largely the mode of thinking, and through it the mode of speaking, of reading, and of writing. It would seem, therefore, that most children may be made either ear-minded or eye-minded in reading, at the pleasure of the teacher.

Thought moves along the lines of least resistance, and these are either those association tracks which are first opened, or those which are used most, the latter being usually identical with the former. Several questions of fundamental importance at once arise here in regard to reading and spelling.

In learning to hear and understand spoken language, as also in talking, the child makes an association between the oral word and the thought ; in teaching him to read, ought the first association to be made in his mind between the oral and the printed word, or between the printed word and the thought ?—*i.e.*, ought he to be made ear-minded in reading, and be

obliged all his life to translate mentally printed speech into oral speech before he can get the thought? or ought he to be made eye-minded, and be able to get the thought directly from the printed page? Ought a direct association to be made between the printed vocabulary and his thought, so that a stimulation of the visual word-center may directly arouse the ideational centers and bring the thought into consciousness; or ought an indirect association to be made, as is done in current methods of teaching, between his printed vocabulary and his thought, by associating the former first with his oral vocabulary, so that a stimulation of the visual word center by the printed page will awaken the auditory word center, and through it bring the thought into consciousness by arousing the ideational centers? Should the child be taught reading in such a way as to enable him to think in printed speech when he reads silently, or in such a way as will make it necessary for him to translate mentally the printed words into oral words and do his thinking in oral language?

It seems to me there can be but one answer to these questions. In teaching a child to read, the association between the printed word and the thought should be made first, as is the case with all children who have never had the sense of hearing. After this association has been made, that between the oral vocabulary and the printed vocabulary should be made. Oral reading, even if the thought is in consciousness, as is not the case when such reading is mechanical, tends to establish and to intensify the association between the two sense products—the visible printed word and the audible oral word. Silent reading tends to establish and to intensify the direct association between the printed word and the thought, provided the association between the oral word and the printed word has not yet been made so firmly that the latter calls up the former vividly in idea in silent reading. That is, silent reading will make the child eye-minded in reading, provided he has not yet been made strongly ear-minded through oral reading.

From this it would seem to follow that the first steps in reading should be in silent reading, and that it is a mistake to let oral reading precede or accompany too much from the beginning the silent reading.

A person who is eye-minded in reading, and gets the thought directly from the printed symbols, can read from two to three times as fast silently as he could read orally; whilst a person who is ear-minded and is obliged to get the thought indirectly through the oral symbols recalled in idea by the printed symbols, cannot read materially faster silently than he can read orally. Rapid reading in the case of light literature is not inconsistent with intelligent reading, and it does not follow that the silent and indirect process of the ear-minded reader is a more thoughtful one than the more rapid one of the eye-minded person. There are not wanting instances indeed which go to show that quite the reverse is true, as far as light literature is concerned.

It is, however, not merely the gain in time which is of most importance. The process of thinking directly in printed speech in reading is also easier than that of translating first the printed symbols into oral symbols ; and training a child to get thought by the most direct route, as it were, and along the line of least resistance, contributes largely to fostering in his mind a love for reading. That children, coming from intelligent homes, who have done much silent reading from their earliest years, are for the most part eye-minded in reading, read intelligently and yet with great rapidity, and love reading, goes far toward confirming the ground here taken.

By a line of reasoning similar to this in regard to spelling, it may be shown that the first association which should be made is not that between the oral word as pronounced by the teacher in the spelling exercise and the muscular movement of the hand in writing (spelling) it, but that between the visual or printed form and this muscular movement on the one hand, and between the thought and the muscular movement on the other, the latter soon displacing the former association. In other words, children should not be made ear-minded in spelling, nor even eye-minded, in so far as it can be avoided, but motor-minded. This would eliminate much self-consciousness from spelling, and would remove a frequent cause of misspelling from schools and from everyday life—misspelling a word by spelling it phonetically.

It has been a fundamental error in teaching reading and spelling to treat printed and written language as if it were primarily the representation of oral language instead of the immediate representation of thought. In the historical development of written language in the human race, the written symbol was at first the picture of the object which it denoted ; that is, it was the immediate representation of the object itself, and only in an altogether secondary sense a representation of the oral name of it. The invention of separate letters to represent separate sounds was a late and altogether artificial device of immense practical advantage to the race, but a misleading device as far as the first steps in teaching a child to read and spell are concerned.

This false assumption of the relation of printed and written language to thought in primary education has been used as the basis for an argument in favor of spelling reform whose force is largely fictitious. Spelling reform is, no doubt, one of a number of very desirable reforms, but a phonetic system of spelling would not save the time which it is supposed to save in teaching a child to read and spell, if, in teaching these subjects, the printed and written word were at first treated as the immediate symbol of the thought, and were directly associated with the thought instead of indirectly through the oral word.

Several interesting questions present themselves for future investigation :

(1) What per cent. of people are eye-minded in reading, and what per cent. are ear-minded ?

(2) To what extent do eye-mindedness and ear-mindedness in reading accompany eye-mindedness and ear-mindedness in other respects ?

(3) To what extent are eye-mindedness and ear-mindedness in reading due to methods of education ?

(4) Are the well-known disturbances of other speech centers which so often accompany auditory aphasia due to faulty methods of teaching language, by means of which wrong association tracks were first established ?

(5) What per cent. of persons who have occasion to write much are ear-minded in spelling, what per cent. are eye-minded, and what per cent. are motor-minded ?

(6) To what extent is this determined by ear-mindedness, eye-mindedness, and motor-mindedness in other respects, and to what extent is it due to education ?

(7) What light can be thrown on the problems of teaching language by a study of the facts of aphasia as they present themselves in deaf-mutes, in whose case some association tracks which exist in hearing persons cannot be opened ?

(8) What effect has eye-mindedness in reading on the reader's appreciation of beauty of style and on his oral reading ?

(9) What effect has motor-mindedness in spelling on the writer's style ?

DISCUSSION.

PROFESSOR BRYAN : It has been shown by recent investigations in aphasia, not that there is a separate center for sounds and the words of which those sounds are the elements, but that there is at any rate a separate psychological function. In one very interesting case reported within the last few months, a patient was found who was able to recognize certain of the letters and sounds of the alphabet and not to recognize others; but in many cases where he could recognize every sound that made up a word, he could not tell what word it meant. He could give the separate sounds, but not the word; and the reporter of this case holds not that there are separate centers, but that there are at any rate separate functions for those. Now the question I wish to ask Superintendent Balliet is, whether it would follow from the general line of his paper that the sounds should not be taught separately ?

SUPERINTENDENT BALLIET : My impression is that there are a great many reasons why that should not be done. Years ago we began by a sort of histology of the English alphabet, did microscopic work in reading. We taught the elements, and then combined the elements into principles, and the principles into letters, and so on. We have now given that all up. The next step was to teach children to write by writing entire letters. The result was that the connecting lines between one letter and another, and making up a whole word, made the muscular movement seem different from what the muscular movement was in making a separate letter, and we have given that up. Children now write the entire word, and are drilled on the technical work of making the letters strictly accurate until after they have been trained to make entire words. The same thing applies to reading. I think phonics in pronunciation ought to be taught by pronouncing entire words, and if a child makes a sound imperfectly, that sound ought to be prominent in some word, but ought not to be singled out. There are

very few people, and I am not one of them, who can make the sounds that correspond to the English alphabet separately, and make them correctly, because they do not sound quite, when they are separate from one another, as they do when they are combined in groups; so I think there is every reason why children should not be taught to make the separate sounds very early, and I think there are many reasons that go to show that it is possible to live and die happily without doing that.

MR. COOK: It strikes me the speaker was making a point in regard to association that was not quite valid. Is not the symbol merged with the thing so that we look right through the symbol at the thing? Now we begin, for example, to translate this new symbol, 50%, and we say 50% equals $\frac{50}{100}$, or another expression for the same thing exactly; and do not these three blend, so that there are three phases of the same thing, rather than that we should go through series here, and afterward get to the object itself? And if we are to use an object of this kind, are we to go through the symbol by tracing, and end with this? This is a particular thing itself. It seems to me that the idea of association is held to obtain in the child's mind if it has really disappeared. Now I have made quite a little study upon this particular point, Mr. Balliet, and I find that if the pupil is required to talk in either of these languages, if you please, that there is no movement through a series. You move from one line to another simultaneously. It is simply three phases of the same idea.

PROFESSOR HERVEY, of New York: There is one question I would like to ask. Is it better for me to know how to spell a word by knowing the way it feels when I write it, alone, or is it better for me to know how it looks, and how it feels to see it, and to pronounce the letters? In other words, is it better for me to have three hooks or only one? Now, in my own experience I cannot find any instance where the possession of those three pegs in my mind has been at all burdensome, but there have been times when I was very glad of the other two pegs when the first one had refused to do duty for me. I would like to ask if that does apply in this question?

MISS RICE, of Chicago: I should like to know if those who read by sight, in thinking of the sound, speak as well or read as well orally as they would if they thought the word when they read. Many of us have learned our Latin in the beginning in that way. My experience with pupils has been that those write best, most perfectly in form, and read best orally, who read by the ear, as you say. I should like to know what your experience is in this matter.

PROFESSOR BALLIET: It is true that children do not read as well orally at an early age, if you train them silently. On the other hand, if you begin with oral reading, they will not read as well silently. And it is purely a question whether it is oral reading or silent reading that you wish learned best. Reading ought to be made the leading method of interpreting literature. We can well afford to read aloud that part of literature which is very fine, the aroma of which we want to get, and the beauty and balance of sentence; and we can well afford to read that aloud, and get it in that way, rather than to be ear-minded and be hampered when we want to look up facts quickly, not being able to read more than one-third as fast as we ought to read. It is the silent reading that tells in a child's life, and it is with rapid silent reading the same as it is with rapid addition, the quicker you do it the better you get it. That applies to light literature only, of course. It trains children how to study. It trains children how to master books, and how to master them thoroughly and quickly.

As far as the spelling is concerned—whether it is better to hold a word by different hooks, several hooks, than one—I should say, in the first place, that it does not pay to hold words by any hook that you use only once in three months. You can afford to go to Webster's dictionary in such cases. It does not pay to drill in school upon words and spelling which the children use very rarely. They can afford to go to the dictionary. What we want to do is to make spelling a function of the muscles of the hand, and a function of the nerve centers of the brain that control the hand. In other words, make children motor-minded, so that as a thought comes into the mind it moves the hands to record it unconsciously; then, as in speaking, the thought, as it enters consciousness, moves these muscles. Spelling is to printed speech exactly what pronunciation is to oral speech. It is harder to make them motor-minded in spelling than it is in talking, but so far as their vocabulary is concerned they can be trained to spell unconsciously, and then comes the economy of force. The child wastes energy to the extent to which he is conscious of his spelling. We are wasting children's time by having them spend it

on punctuation and capitalization. They ought to be trained in such a manner that all their mental power can be concentrated in the thought. I think spelling ought to be made a function of the spinal cord instead of a function of the brain, just as we shake hands with the spinal cord. I am very sure that a great deal can be relegated from the higher brain centers to the spinal cord.

PROFESSOR SINCLAIR: I find in teaching children reading that where a boy has learned this sentence: "The pitcher is on the table," he has associated the word-form with the object; that when he comes to read silently, or orally, he does not know what the thought is, and is apt to make no distinction between reading "The pitcher is on the table" and "The table is on the pitcher." Thus, while he has associated the word-form with the object itself, he has not trained himself to go down into the sentence and think the thought in that. The great difficulty in learning language is, we do not acquire the habit of getting the author's thought. That is a difficulty that has presented itself to my mind in the teaching of reading to beginners. I have found the cure for that difficulty in silent reading.

CONSTITUTIONAL BAD SPELLERS.

BY ADELAIDE E. WYCKOFF, THE PACKER INSTITUTE, BROOKLYN, N. Y.

If a child cannot learn to spell, it is well to locate the difficulty before trying to deal with the case. Knowledge of spelling begins with perception through eye or ear, and ends with the establishment of a chain of memories. Somewhere along this line we may find a defective provision.

Let any one watch himself in writing slowly, and he will perceive that the words flow from the pen under the suggestive influence of a series of mental images. He will either hear the words mentally recited, or he will see them mentally in print or writing. Let him write more rapidly, and these images fade to mere suggestions of themselves; yet some clew remains by means of which an automatic series of muscle memories is aroused and the hand is guided in the correct motion. Knowing that the muscle images are linked to eye or ear images, we trace the maintenance of the sense images to physiological retentiveness, and their origin to the act of perception; while we find the results of this act determined by the way in which attention is directed, and by the conditions of sensation. Thus our line of investigation naturally divides itself as follows:

First, the sensation; second, the directing of attention; third, the retentiveness; fourth, the mental image; fifth, the automatic circuit. Two series of tests are given by the writer, one for eye and one for ear impressions.

These experiments, briefly described at the Round Table of Educational Psychology at Toronto in 1891, are conducted with children from the time that spelling lessons begin. As an aid in the investigation, a special series of tests, more exact and detailed, was given during the past year to five young women over twenty years of age. These students were able and faithful, but were recommended by their teachers of English as incor-

rigible bad spellers, whose early training and experience seemed to offer no adequate explanation of the difficulty. For comparison, the tests were made upon two good spellers. Reference will be made to only a few experiments selected from the visual series. The tests for optical defects showed astigmatism in four of the poor spellers; short-sight in one; normal vision in one only of the five.

The natural mode of directing the attention was tested by exposing for one second a card containing an unpronounceable combination of letters, those that had been seen being instantly written down in the position and order perceived. The test was repeated with combinations of different lengths. For purposes of comparison the same test was given to forty other students, who answered an accompanying series of questions. The result showed three distinct modes of directing the attention.

In the first mode two or three letters only were seen, frequently the first, second, and last, the relative location and distance being correctly reproduced. The impression made was that of a whole with characteristic features. In these cases the number was estimated by after-calculation.

In the second mode most of the letters were correctly perceived, the order was right, and in a majority of cases the number was a part of the perception. The impression made was that of a whole composed of distinct parts.

In the third mode most of the letters were seen, but the order was not known. In one case, the only pure instance of the type, nine correct letters were given in shuffled order, the student declaring that she had received no conscious impression of their arrangement. The number was obtained by counting afterward. Here, apparently, the impression was of individual, unrelated letters.

Comparison between the character of the perception and the characteristics of the student showed that these three fundamental modes of attention were correlated with three distinguishable and familiar types of mental aptitude and interest. The first favored the synthetic, the second the analytic, the third the individual and practical. For example, the first class preferred the group of studies including geometry, history, philosophy, and the classics; the second, that including algebra, modern languages, and the natural sciences. In the third the choice of studies was less significant than the mental method, which was exact, clean-cut, and scrupulous.

The bad spellers of the first type were two students who always sought out the general principle and remembered by means of it. Conspicuous as thinkers, they were comparatively slow readers, having the habit of reading one word at a time. Almost all their mistakes in spelling occurred in the latter half of the word. For this fact a slight astigmatism failed to account. Further tests made it clear that attention was habitually directed to the beginning of the word. Here, then, seemed to be one type of con-

stitutional bad speller, proved by subsequent test to have good powers of visualization and sound imaging and fair retention, but gifted with a natural mode of attention unsuited to purposes of spelling.

Of the second mode of attention we will speak later. The third, the individual or disjunctive, furnished no bad spellers. Here a fact was evidently a fact, and the fact that *c-a-t* spelled cat had been duly observed and pigeon-holed. The ensuing tests served still further to define the mode of directing attention. The best natural speller perceived long words in two or more groups of letters, none of the poor spellers having this habit. Words and irregular geometric figures variously marked were exposed, and a list written down of the points of relation observed within a given number of seconds. The poor speller who observed most points of relation failed utterly in the tests on visualizing and retention. She could not write fast enough to get the points on paper before they were forgotten. She represented the pure type of the second or organic mode of attention, being able to perceive instantly and correctly a combination of nine letters.

Tests for direct and constructive imaging were given by requiring the student to spell a word backward from the visual image. In the case of those whose attention centered on the first part of the word, only this could be distinctly visualized.

The automatic circuit was tested by having a paragraph written with hand concealed. Mistakes were made of insertion, omission, inversion, and substitution.

Comparison of the eye and ear series of tests brought out the fact that one of the poor spellers was an audile.

In conclusion, the following points may be emphasized :

(1) Many constitutionally bad spellers have defective sight ; some defective hearing.

(2) The same causes that have operated to impair the sight or the hearing have frequently impaired the retentive power.

(3) Constitutionally bad spelling may, in part, be the result of a strong natural bent toward selective attention.

(4) In such cases, where the syllable method of teaching might be especially ineffective, the mechanical memory would be helped by assisting attention in its selection. For example, above the word *separate* might be written, as an invitation to the eye, the syllable *p-a-r*.

(5) Apperceptive methods should be employed from the outset in the teaching of spelling.

For the class of students just mentioned they are a necessity ; for all they are an economy. The children could use a set of cards, each containing a word so chosen as to furnish material for induction, in the finding of root, prefix, and suffix, and the meaning of each. Then, using these as tracers, they could notice in reading and blackboard exercise such new words as contained the familiar elements. The words "separate," "pre-

paratory," and "reparation" could form the nucleus of such a group for the use of children old enough to understand their meaning.*

(6) It might be well to devise some exercises for perfecting the automatic circuit. Possibly practice in writing with hand concealed might be of service, use being made of selections that had been memorized.

THE THEOLOGICAL LIFE OF A CALIFORNIA CHILD.

BY PROFESSOR EARL BARNES, OF LELAND STANFORD JR. UNIVERSITY,
CALIFORNIA.

THIS study is not intended in any sense as an inquiry into the child's religious life and feeling. It is intended simply to show the theological atmosphere in which California children live, and their mental attitude toward their theology at different ages.

The materials on which the study is based are :

I. One thousand and ninety-one compositions written by children from six to twenty years old, in the various schools of California, on the subjects of heaven and hell. They were simply given the subjects, and asked to write compositions in the presence of their teachers, without suggestion or comment.

II. Sixteen reminiscences prepared by adults, in which they tried simply to recall and state their early beliefs.

III. Twenty-seven studies on young children made by mothers and teachers through conversations, working along the lines of this syllabus :

God—Where is he ? What does he do ? Why cannot we see him ?

Death—Why do people die ? Where do they go ?

Heaven—Where is it ? Who goes there ? What do people do there ? What will children have there ?

Hell—What must a person do to go there ? What is it like ?

Angels—What do they do ?

Ghosts—Why are people afraid of them ?

Witches—What can they do ?

Prayer—Why do we pray ? What do we pray for ? Why do we not always get what we pray for ?

Religious Ceremonies—Why do we celebrate Christmas ? Why do we go to church ?

Every variety of faith was represented in the papers : Catholics, Methodists, Presbyterians, Universalists, Christian Scientists, Mormons, Baptists, Adventists, and Spiritualists. With only two or three exceptions the children treated the questions seriously, and the papers bear internal evidence of honest effort to express the truth.

* It is expected that a few of these groups will be prepared for test in the classroom during the coming year.

The data were collated in the following groups :

God, his appearance and activities.

The devil, his appearance and activities.

Heaven, its location, its inhabitants, and their appearance and activities.

Hell, its location, its inhabitants, and their appearance and activities.

Indications of a critical attitude ; acts which take people to heaven ; acts which keep them out of heaven.

Since the children were not answering any set questions, we cannot state what proportion accepted any particular idea, but only how many of the children who mentioned an idea accepted or rejected it.

In studying the data an attempt was first made to bring together the theological conceptions expressed in the compositions, and then to determine the attitude of the children toward these conceptions.

The central figure in the theology is naturally God. The pictures drawn of him are often misty and indistinct, but more than half the papers represent him as a great and good man. He is so large that "he could stand with his feet on the ground and touch the clouds with his arms upraised." "He is a man that has six hands and feet and eyes"; or, "He is a huge being with numerous limbs spread out all over the sky." He is generally an old man, with a long white beard and flowing white garments ; often he is represented as having wings and a crown on his head. He is most often described as good and kind ; the stern quality is seldom apparent, but the whole figure is shadowy, unreal, and indistinct.

A considerable number of children speak of him as being able to do anything, as being everywhere, and as knowing everything. Omnipresence seems hard for the children to conceive, and it probably accounts for his being represented with several heads and members.

Omniscience is easier : "God can see everything you do and hear everything you say, even if you are inside of a house." "I have thought and been told that he can see through anything ; it makes no difference if it is iron, steel, glass, wood, or anything." Many of the children feel that God is watching them, and some say "he writes it all down."

Omnipotence is mentioned by many children, but there are few concrete instances given. One girl of twelve says that "God could have an earthquake at any time." His activities are seldom described ; less than five per cent. of the children speak of him as ruling the universe, making things grow, or caring for our material needs. One boy of ten says in perfect earnestness that "God is bossing the world."

Christ is seldom mentioned, and his relation to the Father is rarely brought out ; where it is, in one-fourth of the cases the relation is reversed, and God is spoken of as the Son of Christ. The Trinity is mentioned by only two children. Christ is mentioned as our Redeemer by some twenty-five children.

Heaven is generally, even with children up to the age of twelve and beyond,

simply an improved earth. More than five hundred children locate it "in the sky," "in the clouds," or "up." The next most common location is "where the good go" or "where God is;" while a few say it is "in the earth," "all about us," "on some star," or "in the east," "and no one in a balloon could reach it, it is so far away." More arguments are produced to prove the location of heaven than to prove any other one point. Christ, they say, ascended; Elijah went up; and several close the argument for locating it in the sky by saying: "Besides, where else could it be?"

Among those who are in heaven, four hundred and eighty-two mention angels; three hundred and sixty-seven, God; four hundred and twelve, the redeemed; and sixty-four, Christ. A few mention dead relatives, the saints, Santa Claus, and unborn babies.

Heaven is most commonly described as "a beautiful place;" but large numbers describe it as "a city," "a mansion," "a palace," "a fine house," "a garden," or "a park." It has streets and gates, plants, flowers, birds, and trees. The concrete particular most commonly mentioned is gold. The streets are of gold, the walks are of gold, the houses are of gold, and one boy has the angels eat gold bread. Several say there is no night, and opinion is about equally divided as to whether there are animals in heaven.

The redeemed and the angels are generally the same. Three hundred and forty-six children mention their wings; nearly the same number speak of them as looking like people dressed in white. A considerable number say they are women, because they never heard of any men being angels, while a few say they are fairies, birds, ghosts, or little babies. Several think of them as always small, others as having "just babies' heads and wings."

The appearance is sometimes carefully described, as when a girl of thirteen says: "I think they wear white gowns shirred around the neck"; and she adds: "I should think the boys and girls would wear their hair alike." Another says: "I thought angels were all the same size; that even if before they died they were fat, they grew thin."

The activities of the redeemed, or the angels, furnish the most difficult detail in the children's theology. Several say they do not know what the angels do; but most of the papers represent them as flying around, playing on harps, and singing praises to God. Sometimes they are said to help God, and a very few have them help the people on earth. Children of twelve or thirteen often mention the monotony of the life.

Several mention the angels as carrying the souls of the dead to heaven, and bringing babies to the earth. Some of the children declare that the angels work, while an equal number say no one works in heaven. To some of the children this freedom from work is the chief attraction.

The evil spirit and his abode are pictured far less often and with less

detail than is given to the abode of the blest ; but there is much greater uniformity in the descriptions.

The general type of devil is well described by a boy who says : " I thought the devil had a man's head, with a long hooked nose and pointed chin, with an ox's ears and horns. He had a man's body, and one leg like a man and the other like that of an ox. He had a tail with a ball of three points at the end. He carried a spear with three prongs, the same as his tail. He could spit fire, and had a tongue like a snake." Often he is black, sometimes red ; three or four speak of him as a fallen angel ; a few as a serpent or monster.

His activities are tempting and fooling people, and killing and burning people. Some say he bites and scares people, or carries off children. Generally, however, the children do not go into any detail about him, but simply say he is a bad man who tempts people.

Hell is generally located under the earth, or below us. It is a place of fire, some say like a furnace, and a very few add snakes and darkness ; but hell and the devil play a small part in the compositions, and disappear almost entirely from the compositions written by children over ten years old.

In all this scheme of theology natural phenomena play but a small part. The stars and moon are a very few times spoken of as lighting heaven. In two or three cases the clouds support or hide heaven. Two or three speak of God as like a cloud, and one says the devil is like smoke ; but there is little connection in the compositions between the celestial hierarchy and the mountains and hills, the plains and woods, the deserts and oceans of this world. Thunder and lightning, birth and death are hardly mentioned in these connections. God is certainly not seen in his works by our ordinary school children.

To summarize briefly the theological ideas of California children, we should say : The world of spirits is for the most part attractive ; there is very little dark and forbidding imagery ; terror is unknown ; the ideas are generally vague, and the standard theological beliefs are often quoted in ways that show that the children have had little or no teaching.

The attitude that children of different ages take toward this theology is an important question for the educator.

The young children under six examined by mothers and teachers almost always accept what they have been told, without question or comment. They, however, recast their theology into forms that appeal to their experience and their modes of thought.

The spirit world is simply a beautiful playroom or playground where children have what they want ; God is a more serious form of papa, the angels are playfellows, and Satan is simply a " boogie," while hell is a dark closet.

From seven to ten there are occasional vague questionings, but under

ten years old there are few indications of a questioning or doubting frame of mind. From that time on, however, questions arise; the children try to reason things out and to relate their theology to what they have learned through experience and through their studies. This critical spirit seems to culminate at thirteen or fourteen, and criticisms are far more persistent and severe at this time than later. Of course, in this work, as in all studies on children, we must recognize the fact that some children develop much more rapidly than others, so that there are many exceptions; but there is a clearly marked difference between the compositions of children of eleven and of thirteen which must strike even the most careless observer. One sees this difference even when the children are doing the same grade of school work; age marks differences better than school gradations do.

Forty papers were selected at random from one thousand to illustrate the critical attitude. Ninety per cent. of them were written by children between twelve and fourteen years old.

The critical spirit first appears in an effort to place the responsibility for the doctrines stated in the compositions. Thus at eleven and twelve there begin to appear in the compositions such phrases as, "I think," "I've been told," "my idea was," "the Bible says," "I was taught in Sunday-school," or "they say." By thirteen or fourteen these phrases become, "we imagine," "I used to believe," "I doubt," etc.

A girl of thirteen modifies her statements as follows: "We cannot exactly tell who is in heaven, but it is supposed that every one that serves *Him* probably goes there." And a girl of twelve thus tries to place the responsibility for the statements she offers: "If heaven is a place where you are said to be always happy, I think it must be very beautiful. One of the most lovely things to beautify a place is flowers, and it is my opinion that we will find lovely flowers there. It is said that the people that go there, who are angels, have wings and dress in white. Of course, I have never seen them. So I don't really know how they do look." The most common form of criticism is that which appears in efforts to harmonize theology with experience.

Thus one boy says: "I used to believe that the air was full of bad spirits which would hurt you, but I don't believe it now, because they don't hurt." A girl of fifteen says: "I don't see how people can stay in heaven forever, without nothing to do except to play and sing, but people might be different there from what they are here."

The new desire to exercise the critical judgment seems at times the only reason one can find for the questions raised. Thus a boy of fourteen says: "I thought that the devil and all the other things were just as they say they are in the Bible, from which I got my impressions, but beyond that all is a mystery. My idea of heaven has changed, and now I think that heaven is space. But if that is so, how could the heavens open, as it says they did in the Bible?" And a boy of fourteen says: "I think it is strange that when one dies his soul goes to heaven if he is good, and if he is bad his soul does not go to heaven; and I don't see what good it does for your soul to get to heaven, because when you are dead you know nothing of it."

The children at this age also try to make their theology harmonize with their humanitarian feelings and their sense of justice. One boy of fourteen says: "I think when a mother sees her son, if such things happen, left among the bad, she will not be very happy for a while." Frequently the children of this age say they do not believe that savages

and babies will go to hell, while very many who accept the standard theology for God, the angels, and heaven, declare that they do not believe there is any devil or hell. This, of course, may be due simply to their teaching, but it seldom appears in compositions by children under eleven or twelve years old.

A very few assert their disbelief in any form of theology, but these few atheistic statements are more dogmatic in general than the statements of orthodox Sunday-school children, and bear all the marks of having been simply accepted from parents or others. For example, a girl of eleven writes: "Heaven is our dear mother and father, and heaven don't help to grow, nor he don't give us bread nor anything." And, again: "When people die they put them in a hole and put some ground on them and leave them there—and they don't go up in heaven or any place; they always stay in that same place."

After children pass fifteen they generally avoid telling what they believe by saying: "I used to believe," or, "When I was little I believed," etc. If they express their present beliefs they raise very few concrete doubts. They use more abstract terms, describing God as a great, all-powerful spirit, and heaven as a beautiful abode of the blest. Angels are celestial spirits, and the devil is the great evil influence in the world.

One cannot help thinking that they have accepted an abstraction and a name, and have, temporarily at least, laid the questions that perplexed them aside. Certainly from fifteen to eighteen there is no such persistent exercise of the critical judgment in matters theological as there is between twelve and fifteen.

In all these reasoning processes the Bible is only occasionally referred to as an authority, and in citing it the children show a very great ignorance of the most common Biblical allusions.

Incidentally this study throws a strong side light on what children are taught to consider good and bad acts. Naturally most of the children say that to go to heaven we must be good, and that if we are not good we do not go to heaven; but in many cases they specify virtues and vices supposed to be especially prominent.

Next to being good, the virtue most commonly named is obeying God, and then come in order of importance: "keeping the commandments," "believing in God," "loving God," "praying," "trusting God," "obeying parents," and "telling truth." Less than one per cent. of the children mention "going to church and Sunday-school," "reading the Bible," "keeping Sunday," "working hard," and "being baptized."

A boy of four says: "You must be good on the earth and be quiet"; while a boy of ten sums up the virtues with: "God wants you to obey your parents and to do what they say, and he wants you to be polite to everybody you meet on the street."

The whole career of the good man is summed up as follows by a boy of twelve: "The good man will first join the church on probation, and then in six months he will join the church and be a member. He will push the work of God along as much as he can, help the poor and the church, and probably be successful in heaven. He will die a happy man and go to heaven."

Among the bad qualities, next to being bad, the children mention "disobeying God."

Very few concrete sins are mentioned; less than one in a hundred mention "swearing," "lying," "talking dirty talk," "drinking," and "using tobacco."

Many allusions also throw light on the sources of the theological ideas which the children hold. Many say: "My mother has told me," "I have heard in Sunday-school," or, "they say in church;" not one mentions what his teachers have told him. Evidently the effort to secularize our schools has been but too successful. One boy says he got his ideas of the devil from a Punch and Judy show; two say their ideas of the devil came from the pictures on deviled ham. Several mention the hired girl as an authority, and a large number say their ideas came from pictures.

From the study of the data in hand it would seem that we could safely draw the following conclusions: If young children are to be taught a theology, it must be in an anthropomorphic and realistic form. We may teach that God is a spirit, but the child's mind at once invests him with a form and human attributes. If we do not furnish exalted and worthy imagery, the child fills out the form with random pictures, Punch and Judy impressions, and images of grocery labels.

Since pictures furnish so much of this imagery, children should be surrounded with worthy pictures—*e.g.*, Raphael's Sistine Madonna.

Through confidential conversation with the child, grotesque images should be detected and corrected.

Many California children seem to be ignorant of the most common and most generally accepted theological conceptions of Christian people. They should be given this knowledge, if for no other reason, because it is essential to an intelligent understanding of the literary and artistic life of our times.

The period of most intense critical activity is the period of puberty. Some special effort should be made at that time to assist the child in rearranging and adjusting his philosophical and theological conceptions. In the schools literary, historical, and scientific studies should be dealt with in a large and philosophic spirit. The child's desire to grasp the universe should be encouraged, not discouraged. Later he will settle to detailed work.

The general absence of references to nature would seem to indicate that children are accepting scientific explanations as final. It would seem that the schools should lead them to feel and realize that *Greater Power* which lies back of our superficial explanations and makes this a sane universe.

DISCUSSION.

BY A MEMBER: I would like to ask if there was found among the authors of those papers a single Swedenborgian.

PROFESSOR BARNES: I cannot tell. We had every variety of faith represented, and they were not required to put their denomination on the paper in any way, so that except in cases where I asked the teachers to put that on paper there were no cases given.

RABBI LYONS: I must differ from Professor Barnes when he states that this matter can be reduced to some scientific status. I do not think that there exists among children in regard to their theology anything that is capable of such reduction, for there is nothing original to children in this direction. What we find in the mind of the child is but the voicing of a sentiment that has been implanted in its mind by the lips of the parent, and the more speedy way to reduce this to a scientific basis would be to direct our attention immediately to theology as it exists in more mature minds. I believe very firmly that in theology all of us are the children of one another. We improve on the thoughts of the children in giving to their infantile thoughts a greater polish and rendering them more poetic.

PROFESSOR BROOKS, of Philadelphia: It occurs to me that if the significance of Professor Barnes' paper could be impressed upon the minds of the parents of the children of our country, the most practical and excellent lesson could be drawn from it, because the probabilities are, taking our organization of schools and society as they are, that this theological thought, theological doctrine, could better be taught by the parents in the family than in the public schools, especially, too, from the fact of the great variety of theological thought in the different families of our country. Is it better to impress vivid imagery, concrete ideas of theology, on the minds of Christian children, or is it better to deal in more general conceptions?

PROFESSOR SINCLAIR, of Hamilton: I would like to ask whether Professor Barnes observed any tendency on the part of the child to grow toward the perfection of an ideal in matter and doing, and whether these children have observed, or are learning to observe as they are growing older, that by concentrating their attention upon that form or motive, if you will, which will lead them toward that which they conceive to be the highest ideal, they will be enabled to forget those things which drag them down, and will be drawn up toward a conception of the good, beautiful, true, and to the perfection of that end. The reason I ask that question is because in a weak way we were endeavoring to carry on this subject of child study for some years, and in the supervision of some three hundred children, between five and seven years of age, and their teachers, I have noticed this, that as the teacher has studied psychology and has investigated along the lines of which Professor Barnes has spoken, we have found invariably that the maximum of child study has resulted in the minimum of child punishment, and I think it is because this point has been emphasized and that children have grown into the way of trying to forget the bad, and are interested in the good.

PROFESSOR BARNES: Our study would not lead me to make any general judgment on the subject. I wish Dr. Winship would relate a little incident that I know bears on this subject.

DR. WINSHIP: I happened to receive a letter this morning from home in which our little boy, three years and five months, last Sunday evening declined to say, "Now I lay me down to sleep," because he didn't want God to take care of him over night; he wanted his mother to.

PROFESSOR BARNES: I should like to observe that if my paper shows anything it is this: that you can't put into a child's mind a general conception, a general vague term, an abstract definition, a large abstract idea or notion of some kind, and ask him to hold this in its abstract form until he gets old enough to clothe it in its proper image. If he holds it at all, he holds it because it is an image.

MISS LLOYD, of Pennsylvania: I can only speak from personal experience when I differ from you in regard to the conception that a child can have of God. I am a Quaker. I received my theological instruction from a Quaker mother. I can never remember a time when I had anything but an abstract conception of God. As a little child I thought of Him as something like clouds and shadows and air and light, that was everywhere and might easily be everywhere, and afterward these thoughts took more definite shape. I should be very sorry, if teaching Christian theology in our schools means teaching little children the demonology of Milton's "Paradise Lost," that it should ever find a place in our schools.

THE FIRST TWO YEARS OF THE CHILD.

BY MISS MILLICENT W. SHINN, EDITRESS OF OBERLIN MONTHLY.

THE baby, coming to his third or fourth year, reaches the extreme frontier line of any region thus far annexed by pedagogy. He is described and discussed abundantly—if somewhat loosely—and yet of him but little is known by the teacher or the psychologist. With what powers, what interests, what prepossessions, does he come? What difference would it make in our systems of earliest education if we knew? Did Froebel or James Mill map a system most in accord with the real psychology of the three-year-old? The first practical application likely to be made of recorded observations of babies under two or three years old will be to the answering of such questions as these.

What capacity, for instance, has the two-year-old for understanding color, form, number, time? What memory? What reasoning power? A baby girl of whose development I kept close record, a bright, healthy, matter-of-fact child, of no unusual powers that I could see, found it play to learn to name and recognize everywhere the colors and the principal plane forms before she was two years old; before she was a year old, her grandmother taught her to recognize “O” on a block or a card, and she found a “Q” on another card, and held it up, expressing by questioning sounds her wonder what this was that so resembled “O,” yet differed from it. Yet this same baby, who could discriminate at eleven months so small a difference in form as the quirl of a “Q,” could not comprehend, far on into the third year, so conspicuous a division of time as a day, nor use time words with any intelligence. “How long did baby sleep?” “Two-fee week.” “How long ago did you go to the city?” “Two-fee minute.” And “When?” would be answered as indiscriminately, “Next year,” or “Six o’clock.”

If color and form are usually so easy to a baby, time so incomprehensible, we ought to know it. Why should we withhold till the later and more crowded years the one knowledge, if the baby is able to receive it with ease and joy and find life the more interesting for it, while we daily take for granted an inborn comprehension of the other, to which the mind is really dark?

So again: Does the baby really, as we are perpetually told, grasp first the individual, the special, the concrete?

The first word that Preyer’s baby volunteered was *At-ta*, and it meant disappearance, departure, and all associated therewith. The little girl I studied used as her first word *All-gone*, in a highly generalized sense. She said it when an object was put out of sight; when one was denied her; when she saw an object that had been denied her; when she swallowed a

mouthful of food ; when she slipped back, failing to climb a step ; when she had tried to attract some one's attention and failed ; when a person left the room ; when a door blew to ; when a wagon drove away ; when a person passed by, or a wagon approached ; when she wished to go out herself. I have had the mother's notes on another little girl whose first word was the same, used in a similar wide, vague way. My little subject knew *flower* before *rose* ; *tree* before *walnut* or *orange tree* ; and indeed so general was her idea of *tree* that she called little seedlings by the name unhesitatingly, and seeing a twig of pink Japanese maple in a glass, pointed and cried, "Tee ! Ba !"—a tree in a vase. If the baby's ideas really go according to Spencer's code, from vague and general ones to narrower and clearer differentiations, we ought to know it and have it in thought in dealing with his mind.

So we might ask many questions, the answers to which we ought to have before we can use the best intelligence in dealing with the baby, or with the little one just beyond babyhood. In so brief a paper I will try to suggest but one more ; and this is one as to which observation is so easy, and the pedagogic suggestion so direct, that it seems to me the one likely to yield the first important results. That is, What are the real interests and tastes of the baby ? In what order developed ?

We make much effort nowadays to meet them, and talk much of developing the child along the lines nature is already taking with him. First the senses and later the reason, we are told ; first the object and then the word ; first handcraft and then headcraft. I cannot see that the baby holds to any such order, if it is left to him. A certain familiarity with the world around him by the use of his senses he must get before he can begin to use his mind on it or apply words to it ; but just as soon as he can he begins, so far as my observation goes, to make sense the servant of mind, and language the great and highly prized means of all clear understanding of anything. With all his insatiable desire to see, to handle, to move what can be moved and open what can be opened, and change the places of objects, his curiosity goes only to a certain point ; he resists efforts to interest him in more precise and systematic use of his senses for their own sake.

Let me illustrate from the baby girl of my record. Her first great interest was in getting a rough conception, with eyes, fingers, and mouth, of the world about her. In the fourth month she began to *inspect* the room in which she lived ; she would look deliberately from object to object, till one section of the room was thoroughly examined ; then turn her head quickly and examine another, until the appearance of the room from that point of view was mastered. Then she would show impatience till she was carried to another side, to renew her inspection thence ; all this with an expression of surprise and eagerness, eyes wide and brows raised. But soon, probably when she had come to recognize the furniture

from any point of view, she ceased to examine the familiar room, but renewed her eager and surprised inspection when taken to another. So in widening areas she reduced her world to a certain order and rationality.

I am obliged to use words that imply more distinct mental operations than hers could have been ; yet in some sort she certainly did have a conception of the aspects and place-relations of objects about the house ; for once, when I carried her out through the kitchen into the woodshed, then, opening a door, stepped across a veranda directly into the room we had left, her amazement at finding that to go to a strange place, and thence to take a strange path onward, brought her back into the familiar room, was unmistakable. When she could use her hands she practiced to the full the endless investigations of babies. When she could creep, she explored tirelessly every corner of the room for a time ; then new rooms only excited her curiosity. For days it was heaven to be taken about the lawn, investigating the grass, the gravel walk at the edge, the bark of the trees. But soon she had reached such comprehension of these things as she craved, and their mere ministry to her senses ceased to interest ; she would coax with all her baby powers to be carried about the shrubbery. When she could walk and run about the paths, her joy in traversing and retraversing two or three of them, reacquainting herself with them on her own feet, was extreme ; but every few days a sense of satiety would appear, and she would annex a new route, in steadily widening areas.

Meantime the "miracle of language" had come to her. She had had for mere purposes of communication a language by signs before, and even in this she showed a cleverness beyond her general development at the time ; but it was quite instinctive, not a conscious joy and intellectual possession. When she discovered in her eleventh month, almost simultaneously, that pictures represented objects, and that the sounds we uttered also represented objects and acts ; that as we talked around her, amid meaningless sounds there came to her from time to time intelligible pictures in vocal form, and as week by week these grew more numerous—it was as if the world of sense was made new to her. She turned the leaves of her picture-book, selecting the images that conveyed meaning to her, and putting her little finger on one after another, looked up into our faces with a coaxing sound to hear its name pronounced, then contemplated it again with a satisfied grunt. She held up her arms and asked to be carried about the room and have object after object named at her note of interrogation. Had we not watched her as closely as we did, and tried to follow the leading of her own mind, of her spontaneous desires, instead of preconceived ideas, we might have failed to see so early this joy in language. But no one can be unaware how persistently the child, when he has obtained the power to speak for himself, desires to ticket off everything in his mind with a word. "Fat's dat?" "Fat did he do?" the baby asks daily. So it was with this little girl ; and

very early in her possession of speech she rejoiced to turn over the pages of books, naming the pictures she could, and setting down the others under the general title, "picture."

At all times the power of delicate distinctions in speech was far beyond what her general mental development would have seemed to warrant. So it is with all babies. By what process of reasoning does a two-year-old baby manage so abstract a signification as that of a personal pronoun? How should he observe so delicately that we say "I" of ourselves, "you" to others; and instead of literally imitating, calling himself "you," follow the analogy intelligently? Yet a dozen distinctions as philosophic (if not always this particular one), as impossible without help from ancient race-habit, the baby will make at an age when you can barely coax the bungling little fingers to string a bead.

Midway in her second year the application of names to colors—for which as mere sense impressions she had not greatly cared—opened a wide field of interest to the little girl I speak of; and with a like exercise in naming the forms, plane and solid, made the chief indoor happiness of the rest of the year. The key of the *word* opened her eyes to notice the color or the form; it visibly enabled her to put the sense impression away in her mind in available place, and to recognize its counterpart when she saw it, instead of passing blindly by. When she stood on a chair by my shelf, and pulled the books off and dropped them on the bed beside, the mere mechanical exercise was renewed in interest as she spontaneously named over the colors: "That red book; that book black; that green."

She waked suddenly one day, in her twenty-second month, with a shout of joy, to the discovery that the walls, the doors, the furnishings about her, carried the well-known plane forms; she rejoiced thenceforth in finding and naming them. "Oblong over there!" she would shout, pointing to the door panels. She made people turn and smile in the cars with the sudden joy of her discovery of a "cunning little square" in the paneling; or in a store with her loud and jubilant enumeration of "Red stocking! Blue stocking! Black stocking! Pink shirt! White shirt! Green box!"

By the time she was a year and a half old, stories and verses from which she could have got little but gleams of clear meaning enveloped in a cloud of vague suggestions, were liked by her, preferred to many things that were more definite to her. Yet this is probably less true of her than of most well-born and well-tended children, for she is unusually matter-of-fact. That most such children by the third or fourth year do get much in the way of an atmosphere, an elusive beauty and suggestion, an invaluable glimpse of a beyond, from words that are outside their comprehension, seems to me indisputable. One three-year-old friend of mine took great pleasure in reciting Blake's "Piping down the valleys wild." She could not have understood it—any more than the rest

of us ; but she liked it, and she recited with a sympathy and feeling that showed she found *something* in it.

The two or three other lines of interest that have seemed to me leading ones I must barely mention. Of the joy in mastering the use of its own body, the endless interest in mere muscular activity, I need say nothing. Joined with this I found throughout the first two years an exultation in freedom—freedom of limb, of choice, the free distances and spaces outdoors—that was surprising. None of the obvious reasons were really sufficient to account for the perpetual passion to reach outer air. A bare strip of ground was better than a room full of interests. A docile child, willing to accept restrictions, to be denied wishes, the little girl yet craved above all things freedom to follow her own devices in the free air. One can hardly help seeing in this some race-inheritance from a forest life. So, too, if one is not afraid of being fanciful, in the singular interest roused by the lower animals in most babies—an interest that in the case I observed waked at six months old with a passionate enthusiasm for the dog, passed on to cats, and birds, and horses, and bears, and chipmunks, and has never failed, now far on into the third year. I cannot dwell on it here ; and it is well known to all students of children already. The pedagogic suggestion afforded by it and by the similar (but later and weaker) interest in growing things, has often been discussed already with reference to the education of children somewhat older. It is so strong in little babies that it must enter into any consideration of their education.

A PLEA FOR SPECIAL CHILD-STUDY.

BY PROFESSOR W. L. BRYAN, UNIVERSITY OF INDIANA,
BLOOMINGTON, IND.

I WISH in substance to make a plea for one special kind of child-study—that, namely, in which methods already well developed and tested in the laboratory may be carried out under the direction of experts upon large numbers of children.

This is not the only kind of child-study profitable. Individual teachers everywhere, though little skilled in scientific methods, may gain great advantage for themselves by observing the children under their charge ; and if the records of such observations be brought together into competent hands, important gains may be made for psychology. The proper direction of such work is at present of the utmost importance. This is the natural history of childhood, and it has certain values of its own which cannot be replaced by anything else.

I wish to urge the timeliness of supplementing such and all other methods by methods more systematic and strictly scientific.

In the last quarter century we have had a vast amount of work in experimental psychology. The bibliography of the subject is growing at the rate of much more than one thousand titles each year. More than a dozen laboratories have been established in the United States within the last half dozen years. We are, in brief, on the crest of a great social movement for the regeneration of psychology.

It is a fact, however, that, from the highest scientific standards, the vast and invaluable work so far done has been largely of a preliminary character. This is, in part, matter of course and a necessity. Questions must be discovered; one sagacious question—one reasonably definite ignorance—is worth more than a World's Fair full of blind "Outlines for Child-Study."

The laboratories of the world are engaged almost exclusively in this kind of work. It does not turn out tracts for popular enlightenment. It furnishes few recipes for teachers or preachers or mothers. It supplies few satisfying generalities to philosophy. Its outlay of published results look to the uninitiated like a mass of tedious scraps. From the standpoint of those engaged in it, this planning of questions, apparatus and methods is for the most part not intended to furnish general laws of conscious life. Such work is essentially preliminary. The ingathering of results must follow after.

But those who have been working at the foundations in experimental psychology have not been blameless, or at least their accomplishment is not blameless. I think experimental psychology has been peculiarly free from this danger.

But I cannot disguise my fear that the preliminary part of the work of which I have spoken has engrossed too large a share of attention, to the peril of our scientific and educational standing.

We promise a science of conscious life. As other sciences have traced the development of the physical world, we promise to supplement this by giving the natural history of conscious life from its darkest beginning to the highest achievements of man. But we shall be false to all our promise, and we shall turn the confidence and sympathy which has endowed chairs and built laboratories, into derision and rejection, if we confine our science to a little round of test in the laboratory.

I believe that the time is fully ripe for a rapid advance in the ingathering of results. The most important things are ready, the things that cannot be hurried. There are many plans scientifically developed. There are men who have that knowledge and training which cannot be extemporized, and who are eager to work. But there must be organization, and there must be money. The thing most in demand is endowed research in the field of child-study. What we want is a millionaire. Or, perhaps, it can come without the millionaire. The people of this country love their children. If the scientists and educational leaders whose repre-

sentatives are here can make the people understand how deep a matter we have in hand, how far into the life of their children and of all the after world this work tends, perhaps, then, from many quarters money will flow in to make possible, under the best scientific direction, a national bureau for child-study.

Suppose such a bureau established, under the direction of our one greatest master, manned by a corps of experts in anthropology, in child-diseases, in the various departments of experimental psychology, in the mathematical treatment of results, and the like. Suppose then, under the direction of these, a little Gideon's army of trained agents working everywhere in schools, high and low, in the country and in the city slums. Suppose, finally, that an innumerable army of teachers and mothers were working as they were able under this direction. Whatever sane prediction we should make to-day of the outcome of such an enterprise for psychology and all the sciences and arts dependent upon it, would in a few years be surpassed.

EYE AND EAR MINDEDNESS.

REPORT OF TESTS MADE BY PROF. W. L. BRYAN, UNIVERSITY OF INDIANA, BLOOMINGTON, IND.

THE experiments of which I shall make a brief and partial report were directed mainly towards the question of eye and ear mindedness. These tests were made by myself and wife, with the advice of President Hall and Dr. Burnham, of Clark University. Experiments were made in discrimination of shades of gray, and memory for shades of gray; and in like manner discrimination in memory for length of lines; discrimination in memory for pitch; discrimination in memory for rates in metronome ticks; then a series of tests in memory span, for figures seen and heard; and then a series of tests, the general idea of which was suggested by Dr. Burnham, whose purpose was to determine, if possible, whether associations are stronger between sensations of the same modality or sounds of different modality. There were forty-one tests in all, made upon each of about six hundred children.

One thing that came out clearly by these tests was the very great individual variation. In matters which seemed to be comparatively simple and to involve comparatively simple mental phenomena, the individual variation was so great that it is impossible to determine whether there is a degree's growth from the lower to the highest course. It is almost impossible, for instance, to determine whether the child of the ninth grade can discriminate shades of color better than the child of the fifth grade; or whether children can determine pitch of tone better in the ninth grade than in the fifth grade. This simply points out the necessity for far wider investigation, and gives a point for the plea which I make for further investigation. One thing is certain, that the advance, that the gross advances have been made when the child is still very young. The curve is upward and nearly straight. It may be that in many of these functions the rapid part of the curve has come before the child entered school at all.

This suggests what seems to me to be one of the most important lines for investigation. We need to note in respect to this, and to that, and the other function which it is desirable to cultivate, whether the period of rapid development has occurred already before

the child entered school, or whether that may possibly occur in this or that or the other part of school course. This cannot be known in advance of investigation in respect to any given function. It opens the way for a great field of inquiry in which every one of the functions which we wish to cultivate comes up for separate and extended examination.

The memory-span tests were made in substantially the same manner as those made by Mr. Boulton, under direction of Dr. Boaz, in the schools of Worcester, except that besides the ear-span tests, eye-span tests were made. As nearly as possible the conditions were made the same for the eye and for the ear. The first general result of this, is that, as Dr. Bealey and others have surmised, "the majority of pupils are not decidedly eye-minded or ear-minded."

Take the number of errors made by each pupil with the eye, and with the ear, let them be ascertained, and then if the excess of errors either way be determined for each pupil, it will be found that many more than half of all the pupils have an excess either way of less than five errors; that about ninety-four per cent. have an excess either way of less than ten errors when fifty-two figures were written. Nevertheless it is important to remember that there were some who did show extreme eye-mindedness, and others who showed extreme ear-mindedness. I should not be safe in saying how many out of ten thousand there would be; but in those that I have examined I should say that there were between five and ten pupils who were so strongly inclined one way or the other that they should have special attention given them, unless the individual pupil is going to be sacrificed to the exigencies of system. I should say that there are about five per cent. of the pupils who will make almost no errors, perhaps none, with one of these senses, and a very great number of errors with the other.

The question has been raised as to whether or not there is a tendency from the lower grades to the higher grades in favor of one of these senses. Allow me to read a very few figures on this point. In the third grade the eye-span errors were 200 and 201 per cent, that is twice as many errors for the eye as for the ear. In the fourth grade, 140 per cent; in the fifth grade, 107 per cent; sixth, 111 per cent; seventh, 111 per cent; eighth, 104 per cent; ninth and High Schools taken together, 99 per cent; a class of training girls, 96 per cent; twelve adults recently examined, 80 per cent. These last numbers, of course, are taken on very few individuals. These figures taken alone would seem to constitute, if they were representative of that which should be found anywhere, a tremendously strong support of the position that we are making everybody eye-minded. Some modification, however, must be made with respect to this. I think it may be shown by a study of the results which I got, that the great advance made from the third to the fifth grade is to be accounted for by the fact that children are learning at that period very rapidly to recognize digits. That is to say, if we study the shade-discrimination, and shade-memory tests, no such enormous advance is made, indeed a very slight advance is made in those things; but of course, at this period, the children are learning very rapidly to recognize digits by the eye. I think the advance can be explained in that way.

Now I wish to read only one other list. The last which I gave took account of all errors of all kinds, errors of ear, omission, and errors of insertion—the method being the same as that used by Mr. Boulton, with the advice of Dr. Boaz. Now I wish to read the list with the errors of ear alone, which considers possible deficiencies of eye-sight or confusion of sense perceptions. In the third grade the eye errors are 233 as compared with 100 in the ear; in the fourth grade, 123; in the fifth, 92; sixth grade, 94; in the seventh, 93; eighth, 88; ninth grade and High School, 86. In the training schools, in a class of twelve, 86; in the case of twelve adults, 65 per cent; in the case of these adults examined, who were students of the summer school of pedagogy of Indiana, the test was made with a high degree of care. I have spoken of these things, but I

wish to use them rather as an illustration in furtherance of my plea that we need more extended investigations than these have been in which methods developed in the laboratory are applied to large numbers of subjects. This, of course, is not the only kind of child-study now profitable. Individual teachers anywhere, though little schooled in scientific methods, may gain great advantage for themselves by observing the children under their charge and taking the records of such observation, which if brought together in competent hands, may be the cause of a great gain in psychology.

DISCUSSION.

BY A MEMBER: I would like to ask Professor Bryan whether the relatively large per cent or the relatively small per cent of errors in the ear test, above the eye test, among very small children, would seem to show that the child is naturally ear-minded, and that he becomes eye-minded only as a result of our system of education. The reason I ask this is because the theory has occurred to me that possibly the same evolution has taken place in the mind of the child, as has taken place in the history of the world. If we compare ancient Greek civilization with the present civilization, we find that the Greeks were eminently ear-minded as compared with the moderns, and we are eminently eye-minded as compared with them. In modern times our eye-mindedness is illustrated by our constant reading of newspapers and magazines and books, the tendency to make the theater and opera spectacular, and the existence of all such exhibitions as the World's Fair, ninety-nine per cent of which deals with the eye rather than any other sense. It seems to me, in the history of the world that there is a tendency towards eye-mindedness, and I would like to ask Professor Bryan whether in his opinion the young child is not naturally ear-minded, and becomes eye-minded as a result of evolution.

PROFESSOR BRYAN: The facts undoubtedly pledge us to say that in the case of those pupils examined, the eye gained upon the ear at an enormous rate; and this apparent difference between the third and fifth grade is not to be accounted for by a gain in eye-mindedness. I think, as I said before, that it is a matter of practice and recognition. Then another consideration is also deduced from these figures. They do not indicate that there is, in a majority of cases, a very decisive superiority of either sense over the other, and incidentally it may be said that most persons do not know whether they are eye-minded or ear-minded. I asked about fifty children, above the age of twelve, who thought they knew. Twenty answered as their results indicated; and eighteen answered wrong.

THE NEW PSYCHOLOGY IN NORMAL SCHOOLS.

BY MISS LILLIE A. WILLIAMS, STATE NORMAL SCHOOL, TRENTON, N. J.

MY paper is a brief plea for the new psychology in normal schools, first, because it is specially adapted to the class of learners found there; and, second, because it insures the sort of child study which is needed now as a basis for scientific pedagogy.

Entrance requirements for normal schools must be low enough to admit candidates from the average district schools. Hence, the first year is devoted, not to instruction in the art of teaching, but to the common school branches. Fortunately this work now follows the lines of the new education, so that students begin their professional course with observation and discrimination somewhat cultivated, and an acquaintance with inductive and synthetic methods, but lacking the discipline of the severer

studies and without breadth of view. Could they give the next two years to mathematics, physical science, and the culture studies, they would even then fall far short of that advancement which is required in colleges before taking up psychology. But this science has its present prominent place in normal courses, because we believe that it furnishes a basis for the theory and practice of teaching. To be used in this way it must be studied by our pupils at the beginning of their professional work in spite of their scanty preparation.

The psychology which has usually been taught is abstract and rationalistic. The text-books, even when simplified, present matter which the students cannot relate to their own experience. They are not interested. In too many cases the work has become a painful task of word-memorizing. There is no clear showing of what the study of mind can do for the training of mind. Better results can be obtained by a different sort of work. The new psychology affords the more excellent way, not because it is so easy that anybody can learn it—on the contrary, never before was so difficult and expensive a preparation demanded of the psychological investigator—but because its methods adapt it to the stage of mental growth of the class of students of whom I speak.

The new psychology is so new that its results are yet to be found largely in pamphlets and monographs. There is no text-book at once comprehensive enough, simple enough, and concrete enough for our students. This is, I believe, a good thing, since it insures the inductive presentation of the subject. The teacher must now select and arrange the topics to be considered, and then, through experiment, introspection, and observation of others, lead the pupils to infer the principles for themselves. We need a psychological library and much use of books by way of reference, but no text-memorizing.

For experimental work in sensation, we have Dr. Sanford's admirable course; for the rest, one could be arranged by the teacher. The laboratory work need not involve a large outlay; one hundred and fifty dollars will go a long way, if wisely expended. Where there is a manual training department in the school, many pieces of apparatus may be made there at small expense. Normal schools need not aim at extending the boundaries of knowledge, and so can do without the costly appliances for quantitative determination.

The really serious obstacle to success in experimental work is the large numbers in the classes. These should be so subdivided that the teacher could give each student individual attention. Above all, we must have correlation of allied subjects. Physiology and hygiene must prepare the way for psychology, and for a time must overlap. The teacher of the theory of education, the training teacher, should build on the psychology. The teacher of psychology should be able to turn to the model school for concrete illustrations of principles.

This brings us to our second point. All Normal psychology must necessarily be child psychology. Our pupils must be taught to study children. The first step is to set them to observing, according to Mr. Russell's plan, which is now so well known that I need not describe it. They will have had a year of this awakening work before they take up psychology. As this science unfolds itself, and they begin to understand degrees of accuracy in observation, the nature of reflection, the importance of measurements, and the use of experiments, it will be more helpful to systematize and specialize in their child study. In a properly related course, the department of physical culture will require measurements of children, records of pulse-beats with reference to degree of fatigue and excitement, school health statistics, observations on color and other signs of health, movements of children at play, and so on, and psychology can build upon these in its opening study of the relation of mind and body.

The modern view that "man is a creature whose life is the adjustment of inner to outer relations, that fundamentally the mental life is for the sake of action," makes it wise to take up next instincts, emotions, and will. Experimental psychology does not yet cover this field; it is mainly in the observational stage. As a rule, this side of the child's mental life first attracts our untrained workers, and we may count upon a large mass of observations to begin with. Professor Barnes has shown us how observation may be specialized here.

Motor ability may be studied more exactly by tests. Dr. Scripture has described, in the *Educational Review*, two which any one could apply. Dr. Bryant's apparatus costs but two or three dollars, and with that his interesting line of experiment could be repeated. Children's vocabularies should be sought, as well as cases of mirror-writing. In sensation, many of the tests used in the laboratory may be at once applied by the students to classes of children, especially in touch, hearing, and sight. The pitch-pipe mounted upon a graduated scale, contrived by Dr. Scripture, will enable them to get accurate results in regard to sensitiveness to variations of pitch.

For testing color-blindness, my pupils made disks from Professor Jastrow's description, and found them most convenient. Results should be expressed as far as possible by the graphic method. For attention, we shall accumulate much data during our work in sensation. Tests on divided attention may be applied, and studies made of parlor games like the so-called "mind reading," Ouija, and others. In association, Galton's or Jastrow's tests are easily made. A great deal may be done in time experiments with a stop-watch, or even with an ordinary watch, if enough tests are made.

The analysis of children's associations brings out interesting points. Some experiments should be made to ascertain the relation between associations, time, and age.

In 'primary memory the children may be tested in their power to repeat figures or nonsense syllables. The latter may be so used as to show whether visual, auditory, or motor images predominate. Some of Galton's questions on the image-making power may be asked the children. The entire set should be given to the normal class. Taking as a text their curiously unlike answers to the same questions, the teacher may well point out the great differences in mental life and the folly of supposing that there is any *one* method of imparting knowledge. The students should collect number forms and instances of colored hearing. In memory, many of Ebbinghaus's experiments may be adapted to work with the children. As to creative imagination, we are again dependent on observation, as we are also in the important field of childish reasoning.

Such a course as I have indicated will take up all the time now allotted to psychology, but to drop it at this point is to leave all at loose ends, and to fail of a good part of the benefit which we ought to derive from it. We should have, in the last year, a higher course. I fancy it would be better to make it an elective, in which we take a systematic review of the field, discussing topics which could not earlier have been seen in their true bearings. If the apparatus is to be had, let the quantitative enter into experimental work. In many places students are sent out, in their last year, to practice in the city schools, and thus have a larger field for observation.

Will the results from such a course pay for the expenditure of time? I believe that they will. Successful testing and experimenting with children is not easy. The training which the young workers thus get in patience, sympathy, and insight into childish ways is most valuable. Teachers thus trained cannot sink into drudges, nor the work become a treadmill round; for, as Dr. Hall says, "Though the ground to be gone over each year may remain substantially the same, the children's minds will be seen to be never alike." In their schools, such teachers will be careful gatherers of facts, and thus, each contributing her mite, will help on the day when through the new psychology there will be a Science of Education.

DISCUSSION.

PROFESSOR BARNES: Three people whom I know, who are carrying on the work that Miss Williams has described in normal schools, say no matter whether we get any scientific results or not the work will pay, because of the interest it will arouse in the students and the scientific spirit it will cultivate in them. I would like to ask Miss Williams if she thinks it desirable in our normal schools to have masses of data gathered and experiments made and work carried on, provided we are not able to elaborate and work it up into some form of definite expression.

MISS WILLIAMS: I believe we ought to have the students think that something will come of it. I have tried to do so, and I would tell them that I mean to do something with the result. When I first began taking observations I found that the thing which interested the pupils more than anything else was to tell them that I wished them to be

very careful with these blanks, because in some large institutions they are making collections of these papers and they might want their papers, and the very idea that it might be used seemed to be a stimulus. I think in time we ought in our own school to work out these results.

MR. GALVIN, of Wisconsin State Normal School : I want to know if in this line of study there could be as much definite knowledge as we have definite knowledge in psychology ?

PROFESSOR BARNES : I would say that it would be infinitely better for a man or woman to have studied three or four psychical phenomena, who is going to be a teacher, with great care, than to have mastered all the rational psychology that we have ever thought we had.

DEPARTMENT

CONGRESS OF BUSINESS EDUCATION.*

REPORT OF SECRETARY.

THE sessions of the Congress of Business Education were held in Hall 29, Art Palace, July 26-27, 1893.

Opening address by S. S. Packard, New York, on the "Evolution of the Business College."

"Practical Advantages of a Business College Training." George Soulé, New Orleans.

"Relation of Business College Instruction to Industrial, Commercial and Financial Interests." By A. D. Wilt, Dayton, Ohio.

"Higher Aspects of Business Education." By R. E. Gallagher, Hamilton, Ont.

"Stenography and Typewriting as Branches of Business Education." By Isaac S. Demert, Chicago.

"The World's Need of Business Women." By Mrs. Sara A. Spencer, Washington, D. C.

"Reciprocal Relations and Benefits of Business Colleges and other Departments of Education." By Ira Mayhew, Detroit.

Address by Dr. James MacAlister, President Drexel Institute, Philadelphia.

* *Explanatory.*—Requests were duly made for the papers pertaining to the meeting of the Congress of Business Education, but no reports of the proceedings, nor any of the papers read at its sessions, were delivered to the Secretary of the National Educational Association for publication, nor to Dr. William T. Harris, chairman of the committee in charge of the International Congress of Education.

About the 10th of April several of the papers read at the Congress of Business Education were sent to the *editor* in charge of publication of the proceedings, but too late for any portion of them to appear in the order of the departments. It then was only possible to print abstracts of some of the papers, the list of which is given in the Secretary's Report.

BUSINESS EDUCATION.

THE EVOLUTION OF BUSINESS COLLEGES.

ABSTRACT OF OPENING ADDRESS, BY S. S. PACKARD, PRESIDENT OF
DEPARTMENT CONGRESS OF BUSINESS EDUCATION.

THE task is laid upon me, within the limits of a brief paper, to sketch the birth and progress of business colleges; and the embarrassment which it brings to me must be apparent to all who are conversant with that history. The temptation is very great to go back to the beginning, to mention names, dates, and incidents which are matters of history and interesting to us all, and to follow consecutively the steps of this evolution and the expansion of the idea which, in the course of fifty years, has given to this country a distinct system of education, which has planted schools in all our large and small cities, which claims a patronage embracing men and women in business, in the professions, in charity, in statesmanship, in religion and in all the great enterprises of the country.

The first teachers of bookkeeping, who are really the pioneers of our present business college system, were not moved simply to open a profession for themselves, but to do a needed work. In the language of one of them, it was at that time impossible to learn bookkeeping without getting into business, and impossible to get into business without having learned bookkeeping, and so the first business college began as between a man who wanted to know something in order to advance his own interests, and another man who was able to impart that knowledge and willing to do it for a consideration. It must be borne in mind that when the first bookkeeping class was formed there was no railroad system in this country and strictly speaking no railroad; the telegraph lay nascent in the brain of its inventor; duplex currents and incandescent lights were not even dreamed of; the sun had not entered into the picture business, and there were no better means of getting over the surface of the earth than were enjoyed by Lot when he wanted to visit his uncle Abraham. Since that first bookkeeping class, everything worth mentioning has happened, and all that was necessary to bring about the conditions which we now contemplate was simply to follow along the line of progress and to meet the growing demands as they came. The one man in charge of the first business college student sustained as full relations to the demands of business in 1843, as the five thousand men, more or less, representing five hundred prosperous schools, with a constituency of not less than seventy-five

thousand pupils, sustain to the present condition of progress all along the lines of enterprise and activity.

The Columbian Exposition of 1893, as it is spread before our eyes in this great metropolis of the West, is the legitimate product of education ; not of a particular school, or class of schools, but of the reaching out of the human mind in all directions, and of making effort effective through the processes of education. Fifty years ago there were not only no business colleges, but there were no kindergartens, no trade schools, no specialties of study and research requiring a distinct curriculum and aiming in a large way at a distinct end. If a boy wanted to learn a trade, he must spend from four to seven years as an apprentice, and even then he was not so well equipped as would be the graduate of one of our trade schools after a year's instruction. If a young man desired to become an accountant, he must begin in a store as an errand boy, work his way up tediously to a clerkship, and in some surreptitious or favored way by contact with the bookkeeper, master the principles and attain the practical knowledge which would place him in the line of promotion.

The business colleges have changed all this ; first, by knowing exactly what is required in the counting-house, and next by supplying that knowledge in the most direct and positive way. The future bookkeeper or financier, instead of spending years tediously in approaching to the desired attainment, can now, by contact with masters in their special lines, gather not only the underlying principles, but enforce by real practice the knowledge requisite for the high duties upon which he is to enter ; so that there is to-day no more of a question as to the qualifications of a graduate of a genuine business college for the duties upon which he is to enter, than there is as to the graduate of a literary college, the medical college, the theological seminary, or the law school. After fifty years of growth side by side with other departments of education, the business college to-day, in its best estate, is guilty of no presumption in challenging the confidence of the community. Thus it is that we come into this convention of educational specialties without apology, and with a full and clear sense of our right to the honor that has been given us.

It would be a pleasing task for me, had I the time and the occasion favored, to compare the work of the business colleges with that of other educational enterprises, each standing upon a distinct idea and looking to a distinct end. I should be glad to show that in this effort of ours we are simply co-workers in the educational field with all earnest and honest men, that the work we have undertaken to do we mean to do well, and as its importance grows upon us by the demands of our constituency and the expectations of the public, we mean to be able to meet all the requirements. It has been said elsewhere, and on different occasions from this, that we are the gleaners of education, and when that designation is defined to cover the facts, there is no higher or more honorable position to be

taken. It is one of the conditions of the building up of our schools, that we cannot choose our pupils. To a certain extent, we may exclude those whose lack of qualifications would be a bar to their progress, but ordinarily our charitable intent impels us to accept, to a greater or less extent, those who have been left by other schools, and who need the instruction which will enable them to enter upon life armed and equipped as best they may.

The business colleges in the country are restricted in their work by responsibilities thrown upon them to make accomplished accountants and accomplished correspondents. An accountant must understand thoroughly and practically not only how to keep books, but how to manage financial affairs, and how to discharge the duties of citizenship. It has been one of our delightful privileges, during the past few years, to qualify girls for positions as stenographers and correspondents. To be a stenographer and a correspondent is not simply to be able to write shorthand with facility and transcribe it correctly, be able to understand and write an English sentence correctly; but to these some knowledge of business affairs must also be added. I think I may safely say that the course of study which is carefully laid out and practiced in all the departments of our best business colleges is clear, positive, intelligent; that its faithful administration will secure the best results of education; and beyond this, the opportunities which come to this class of schools, and which I feel it incumbent on me to say are the greatest opportunities which occur in life for the advancement of the highest interests of young men and women, are not lost sight of, nor underestimated.

There is an important part of our duty as educationists that is not mentioned in any public curriculum and cannot even be designated here, and that is the duty which one human being owes to another; the duty, above all, which a teacher owes to his pupil, to know the ordering of his mind, to come into harmony with his thoughts and his purposes, and in that faithful and conscientious discharge of duty which must ever be the true teacher's patent of nobility, to direct the mind to healthful channels; to put it into harmony with the best thoughts and the best purposes; to kindle the spark of self-consciousness and personal responsibility, and, in short, to lay the foundations of a noble life. I have said that this part of our work cannot be put into a curriculum, cannot be formulated in words, and that its existence in any school through the ordinary means of investigation cannot be ascertained; but knowing intimately, as I do, those who are engaged in this work, and the principles that govern them, I feel compelled to say that not only have the business colleges of the country established their right to stand as special agencies in education, but that the work they have undertaken is in good hands.

PRACTICAL ADVANTAGES OF A COMMERCIAL COLLEGE TRAINING.

ABSTRACT OF A PAPER BY GEORGE SOULÉ, NEW ORLENAS, LA.

LOCKE tells us that "the best way to come to truth is to examine things as they really are, and not to conclude that they are as we fancy of ourselves, or have been taught by others to imagine."

And Narada, a Hindoo sage, wisely says: "We must study to know, know to comprehend, and comprehend to judge."

To reach a correct conclusion on the question before us, let us follow the wise counsel of these philosophers, and study and learn the facts of the case. Advancing on this line of thought, let us first, in logical order consider some of the human enterprises and industries of man which are carried on by virtue of the very knowledge that is imparted by a business college training. In the front line stands commerce, graceful and dignified, robed in royal purple, queen of human industries. In her wake, civilization, religion, and humanity, the triune virtues of a people, march on to grander and to higher altitudes of glory. Commerce invades the wilderness, crosses oceans, and through its influences are founded kingdoms, empires, and republics.

Now the essential qualifications necessary to carry on this commerce and to disseminate those principles which result in the social and physical improvement of the world, and which make labor, production, manufacture, and exchange successful, require a special curriculum of study, which must be acquired either by the slow and costly process of apprenticeship and experience, or by schools established and equipped for this especial purpose. This special curriculum should comprise, for the merchant, the banker, and all classes of business men, in addition to a literary education, commercial law in all its general applications to partnership, to insurance, to common carriers, to general contracts, to notes and bills, to principal and agent, to rights and remedies, etc. It should embrace individual and political economy, the ethics of trade, and the principles of sociology and of civil government; also correspondence, practical mathematics, book-keeping, corporation accounting, partnership settlements, etc. This course of study gives knowledge, system, order, accuracy and discipline to the mind. It unites in action, the reasoning, the perceptive, and the moral faculties, which, with caution and acquisitiveness, constitute the capacity to plan and devise those financial campaigns that result in just and honorable gains.

Speaking for the business college, I can testify, from an experience of more than a third of a century, that the well-conducted business school of the present day does teach the above-named special curriculum of

studies required by all men of business. Therefore, since commerce is so grandly beneficial to mankind, and since a high-grade technical curriculum of practical knowledge is required to successfully conduct so great an industry in all its multitudinous ramifications, and since the well-appointed business college does impart the knowledge required, it follows that a business college training is of practical advantage to its possessor, to commerce, and to the progress of mankind. By the light of this conclusion, I submit that the practical curriculum of the business college is not only of practical advantage, but is demanded by the commercial and business interest of the world, and by the great social questions of the age, which are agitating capital and labor in all the fields of human action. If business men of all classes had a more bountiful supply of this practical knowledge, failures and defalcations, violated promises and repudiated contracts, would be far less frequent.

But, Mr. Chairman, the benefits of a business or commercial school education are by no means limited to the merchant. The banker, the manufacturer, the artisan, the tradesman, the farmer, the lawyer, the theologian, the professional man, and in brief all classes of society are more thoroughly armed and equipped for service in their respective spheres of labor, by the practical education taught in the commercial or business schools. All of these classes of men must of necessity have some knowledge of accounts, and of the customs and laws of business.

A large part of a lawyer's professional business brings him face to face with accounts, with business transactions, with the adjustments of partnerships and of financial settlements. As evidence that the clergy have need for financial knowledge, we have but to consider the financial business of the church. The churches of the United States own over two hundred million dollars of real estate. They receive and disburse annually for expenses, for foreign missions, and for educational purposes, nearly twenty-five millions of dollars. The church is also largely engaged in the publication of books, magazines and papers. To possess this property, and to transact the business of the church, is it not clear that the clergy have need for business and accounting knowledge?

To deny the advantage of the medical school education for the physician, or the law school education for the lawyer, or the theological school education for the clergyman, or the engineering school education for the engineer, or the military school training for the soldier, or the school of mines for the metallurgist, or the manual training school for the mechanic, or the art school for the painter and sculptor, would be a denial of well-known facts, an unpardonable libel on the civilization of the nineteenth century, and an evidence of a mind incapable of discernment or comprehension.

And thus as the above-named schools stand to the science, the profession, or the trade for which they prepare disciples and votaries, so stands

the business school to all classes of business men ; and this, for the reason that all classes require in their respective lines of business, as a supplement to their profession or trade, some knowledge, as previously stated, of the customs of trade, the laws of business, of contracts, of commercial paper, and instruments of writing, of shorthand and type-writing, and of account keeping, etc., etc. The business college is not intended to supplant other schools, but to supplement them.

The business college recognizes the fact that the school of experience occupies the highest altitude of all educational institutions. But while it recognizes this truth, it bases its claims for usefulness to mankind, and to a place of honor among its educational sisters, upon the self-evident fact that there should be a preparatory course of study and training given to all persons whatever may be their vocation in life, before they matriculate in the great school of experience, where the instruction is limited to one branch of knowledge, and the tuition always costly.

The commercial course supplements that of all other schools, and is equally as beneficial to the graduates of the university, as it is to those whose general education has been limited to the public school. All university alumni must pursue a course in some technical school, such as law, medicine, theology, or business.

A business college education is of special and practical advantage to a large class of industrious young men and young women, whose time is too limited and whose treasury is too small to allow them to pursue any literary or scientific course of study, which would require from two to five years.

The functions of the business college are well defined and limited. By holding the standard of its own curriculum high, and by doing its limited work faithfully and well, it will continue to increase its practical advantages to the business world, and will merit the kindly favor of all right-minded men.

THE RELATION OF BUSINESS INSTRUCTION TO INDUSTRIAL, COMMERCIAL, AND FINANCIAL INTERESTS.

ABSTRACT OF A PAPER BY A. D. WILT, DAYTON, OHIO.

It may be safely claimed by the commercial colleges of the United States that there are to-day in the business enterprises of the country not less than one million of their graduates. This will include thousands of heads of firms and owners of business, whose training and the boundless opportunities our country affords have made them wealthy, independent men.

The relationships, therefore, between the business college of this country and the commercial, industrial, and financial interests of the country are

peculiar to this country. The sentiment of caste, which in many parts of the world keeps the highly educated class out of business, has never obtained here, and as a consequence a considerable percentage of the well-to-do and of the best-educated class are in business; and the training given by the business college, which, compared with the broad curriculum of the European schools or the long apprenticeship of the English youth, would seem inadequate, is, however, much more effective than it would appear to be, because of the excellent preliminary training alluded to. Those who have taken it have succeeded; and it is believed that a fair comparison between the German, French, and English business man and the American business man will not give the advantage in the question of ability and effectiveness to his foreign brother.

In all of the best of these institutions the important part of the course is that which is given the student in what is known as the practice department. In this department the student is furnished with a capital in money, merchandise, etc., represented by cards or otherwise, and engages with his fellow-students in transactions which elucidate the methods, forms, customs, and laws of business in all departments. Thus the work of a jobbing house is duplicated in the work of the students with a degree of exactness and fullness that enables the graduates to immediately assume the duties of very responsible positions in such houses; while so much attention is given to the opening and conducting of corporations, and to the latest customs and methods of dealing with their bonds and stock, and to the relationship of owners and the public, in all aspects, that very many of the large corporations have been operated by graduates without further training.

No adequate judgment of the place the American business college has in the educational appliances of the country, or the relationship it has to the great industries of the country, is possible without giving due weight to these important and significant facts concerning the extent of the control and management which their graduates have of the business of the United States.

While the methods, laws, and customs of the various commercial nations of the world are necessarily similar in many respects, a marked individuality obtains in each, and this notwithstanding the constant efforts that are being made by commercial, financial, and industrial congresses to unify these methods, laws, and customs.

Much good in this direction is to be hoped for as a result of the various conferences of the great Columbian Exposition; and what may be agreed upon, which can be generally adopted, will be at once made a part of the curricula of the commercial colleges, and the large body of their graduates who are taking positions in the business world will aid in giving it effect.

The relationship of the million of alumni of these colleges with their *alma mater* has been annually growing more intimate, and the dissemina-

tion of these new ideas between the colleges and their alumni is continually and easily made to the great advantage of both.

Not only are the results of the state, national, and intermediate conferences thus quickly brought to the notice of this great body of students and active business men, but the current decisions of the courts in commercial, industrial, and financial affairs are disseminated in the same way. It is on these accounts, as well as the others before alluded to, that the influence of commercial colleges in the commercial, industrial, and financial world is constantly and highly advantageous.

Not only is the narrower work of book-keeping, but also the broader labor of the management of business affairs, better done in every city or region in which the best class of these colleges are training the young for business pursuits. The most systematic labor-saving methods of account-antship are in use in the counting-rooms, and the broadest and most effective lines of management are followed up.

These claims for the advantages to the business world that result from the work of these business colleges are supported by the testimony of many of the prominent managers of the great industries, and by other high authorities.

This elaborate plea for business college training would not be justifiable or necessary were it not that these colleges, being private institutions, are not so conspicuous to the public eye as the great endowed scholastic and church schools are, and therefore the great and salutary influence they have had in supplying modern business the great body of trained workers, which has made possible the enormous magnitude of our colossal undertakings, is not easily seen and appreciated.

It will not be inferred from the foregoing that those now charged with the responsibility of commercial teaching undervalue the advantage of the broadest literary training to the business man and to the business world. When the late President Garfield, himself one of the broadest scholars of his time, a graduate of the noble college he highly honored, compared the training that Harvard gave to the training given by the commercial colleges, he said he was animated not less with a profound sense of the power that broad scholarship gives in business, as well as in the professions and in all human relationships, than with a regretful recognition of the fact that the graduates of the best American literary colleges have not generally had the specific training that would enable them to quickly and successfully take up the problems of the great business affairs.

THE HIGHER ASPECTS OF BUSINESS EDUCATION.

ABSTRACT OF A PAPER BY R. E. GALLAGHER, HAMILTON, ONTARIO.

No amount of mere intellectual knowledge will render a man educated in any high or proper sense of the term. The test of education is *action*, and the educated man is he who has all his faculties strong and active so that he can perform his part rightly and effectually in the world. The honest, the truthful, the upright man, imbued with right principles of industry and economy, is in every proper sense of the word better educated for life than one who has taken degrees at a university, or who has a full acquaintance with all the systems of ancient and modern philosophy, but who is without those qualities. This education is well within the province of the business college, and, as will be seen, is of the very highest character.

While the business college may be said to be a technical school, educating in a special direction, its field is nevertheless a broad one, for every person needs some training in the processes of doing business. You all understand how much is lost, how much evil results, from the want of knowledge of the ordinary methods of transacting business on the part of farmers and artisans. It is possibly as important, or more important than for the young men who go as clerks or bookkeepers in the business houses, for such young men can get a knowledge of business from their employers. These have teachers over them, and they are thus trained and promoted in the degree that they take on training; but the man undertaking to manage a farm or carry on a mechanical business of any sort seldom has an opportunity for such elementary training as is given to a clerk by his employer, and he feels the want of it all his life.

Indirectly (if not in all cases directly) the business college is a great ethical school. Many schools have the subject of commercial ethics on their curriculum of study, and by the use of text-books and lectures the students are specially trained in ethics; but whether the science of ethics is made a special study or not, bookkeeping as taught in the business colleges is one of the grandest exponents of the economic relations of society. Dr. Anderson says: "A good set of books, well kept, is in reality a series of an exact and certain number of rights and obligations; the rights on one side and the obligations on the other. This is the more important, as men in general are much more cautious in caring for their rights than for their obligations. That is a clear-headed and trustworthy merchant who keeps his obligations always less than his rights; that is to say, where he has rights enough to meet, and more than meet, his obligations. Now this is a mere matter of ethics." All business con-

sists in the exchange of rights. The moral right that underlies book-keeping is therefore of the greatest importance. This is not an ideal representation. Bookkeeping should be so taught that all this may be thoroughly brought out, as it is only second in value to its great practical utility, involving as it does all the processes of banking, insurance, transportation, and exchange.

It is possible some of the business educators of this country are themselves taking a wrong view of their duty ; are regarding themselves merely as machines to satisfy the demands of the business community ; are considering it as their sole duty to equip young men and women with preliminary training necessary to supply the clerk market, or to merely make money in life, instead of giving them such training as will help them to become business men and women in the higher and nobler sense of the term. If my apprehensions are correct, let me ask : Are not the ethical complications among the very greatest ? Are not the problems of the rights and relations of men as important as any commercial study could be ? Is not the commercial world a great commonwealth ? We are living in a great business age ; vast combinations everywhere multiplying and extending far and near to change all business relations and results. Who can tell in these days what the real market price of anything is, or what it ought to be, *even to money itself* ? Tell me, what is so important in that vast system as the ethical principles, the questions of right and wrong which are involved ? What is so important to the success of any business as that there shall be upright principles underlying it ? Young people need to be educated in these respects.

It is also the duty of the business college to train for citizenship, and so far as possible for the responsible duties of the public office.

How important that the problem of a higher education for business be considered in all its bearings ! There are those who pretend to believe that our obligations to our pupils have been met when we have taught them the usual branches of the business course. These certainly should be well taught, but much more must be undertaken. Even these are means, and not ends. The work of the modern business school must above all things be so conducted, and its studies so constructed, as to add continually to the moral force and to the already acquired intelligence of the pupil who comes to it. He must be led into habits of the most careful observation ; he must be taught to have confidence in his own opinions and his own skill ; but at the same time he must be taught to respect the opinions and feelings of others, and to see that his own are well and intelligently formed. He should be required to trace given results back to their producing causes, and to anticipate the legitimate results that might be expected to follow given causes. Patience, perseverance, neatness, accuracy, and dispatch are as essential to a suitable preparation for business, as are theory and practice. In no other way, except by this broad and persistent

business training, can the pupil be fitted in any true sense to receive the business inheritance that awaits him.

In addition to the studies of commercial ethics, bookkeeping, arithmetic, penmanship, commercial law, correspondence, orthography, stenography, typewriting, etc., a thorough training in political economy and civil government should be given in every business college, and, if possible, instruction in commercial geography and commercial history; thus prescribing a course of study requiring from one to two years to complete. I understand that some business colleges are working in this direction already, and are not only meeting with great success, but are dignifying and elevating business education. All that is required is for a number of the more prominent colleges to take the lead in these matters, and others will of necessity follow.

The public expect the business college graduates to perform a leading part in the drama of life, and they will not be disappointed. Reinforcements are needed in the ranks of those struggling for the elevation of the human race, whether in society, business, or politics, and the quota from the business college will be equal to the task. It will send out well-trained young men and women for the real work of life; will send out those who have the power to apply their knowledge, not merely those who possess an array of facts, and no ability with which to make use of knowledge. But they will grandly meet the demands made upon them in all departments of business life.

STENOGRAPHY AND TYPEWRITING AS BRANCHES OF BUSINESS EDUCATION.

ABSTRACT OF A PAPER BY ISAAC S. DEMENT, CHICAGO, ILL.

WE have but to glance into the office of any business concern, whose transactions are of any particular moment, to find one proof that these branches of learning are of value. Not only are they of value, but their special value lies in the assistance which they furnish the progressive and hurried business man.

There is, perhaps, no study which so trains the mind to a clear perception and a quick analysis as shorthand. Typewriting, too, cultivates these habits of mind, and the other important ones of a full knowledge of our language and its presentation in properly constructed periods and paragraphs. Both studies, when properly taught, lead the student to habits of neatness in handwriting and typewriting.

To go more into detail. The committing of principles and word signs necessarily leads to meditation; while the necessity of quickly reducing to shorthand the rapid utterances of speakers, the raging conflicts between

attorney and witness, the brawls of political caucuses, the vehement utterances of the debater, and the excited arguments of counsel, bring into full play acuteness of hearing, sense of harmony, and knowledge of language. This being true, the progressive student soon sees the necessity of thorough training of the mind in order to become a proficient writer and the recipient of well-deserved fees.

Typewriting *may* require less of intellectual capacity ; yet it requires a quickness of perception and deep penetration which are not necessary to the shorthand writer, though of value to him. This is illustrated by the endeavor of a man, with muffled utterance and little or no knowledge of the English language, to dictate his business correspondence. If the operator be thoroughly competent, it will be his duty and natural desire to grasp the full meaning, and his sense of hearing will be put to the utmost tension. In addition to the difficulty of understanding the words will be placing together in proper sentences, accurately punctuated, his ideas ; and this must be done quickly, for such a dictator would become irritated by what might seem to him unnecessary delay.

If I take the other view of the meaning of this topic—that I am to treat the subject as a distinct branch of business—the subject is still further broadened.

The field for a fully equipped amanuensis is almost unlimited. There is scarcely a branch of business into which he may not go. And the time is not far distant when stenographers will become as much specialists as physicians and surgeons now do. When that time arrives one student will qualify as an amanuensis in the real estate business, another in the grocery business, another in the hardware business, another for law offices, and others still for insurance and other offices. Even now reporters are becoming specialists ; for we have reporters of debates, of medical conferences, of legal trials, and even of funeral services.

Why I say that amanuenses will qualify for these distinct lines of business is that now the business man is confronted, when he desires to employ an amanuensis, with the knowledge that it will take weeks, and maybe months, before the new assistant will become so thoroughly versed in his business as to perform his functions without delay or error. General conventions, local conventions, meetings of associations, etc., are becoming so numerous that they afford constant employment for many reporters. The reporter has been schooled in the idea of doing all kinds of work, but the fact that he may obtain a good clientage in any special line of work necessarily creates in him a desire to settle into that single line of reporting.

If it be true, then, that these studies are to lead into a necessity for these differences in training, it is safe also to predict that the department of commercial colleges usually termed Department of Shorthand and Typewriting, which is now considered subsidiary, will rise into such prominence as to

demand separate institutions. Many teachers of shorthand are now endeavoring to produce this result, and their efforts in the end will be successful. This demand, which I have outlined, for a divorce of the shorthand department from the business college, will force an acknowledgment of its importance. It is not acknowledged; it is treated as a sub-department. True, its revenues are large; but it is not given that literary standing which it, in and of itself, by virtue of its mere theory, demands.

I take the broad stand, therefore, that shorthand writing is a profession, requiring just as much study, research, and practice as any other profession. Unlike most professions, however, remunerative employment awaits the novice, and he may either climb or remain an amanuensis.

THE WORLD'S NEED OF BUSINESS WOMEN.

BY MRS. SARA A. SPENCER, PRESIDENT OF SPENCERIAN BUSINESS
COLLEGE, OF WASHINGTON, D. C.

[An Abstract.]

SHINING landmarks in the world's history, commemorating new civilization, are known as "The Age of Pericles," "The Renaissance," "The Court of Queen Elizabeth," "The Reformation."

This period of time and events known over the earth as the Columbian Quadricentennial, the Golden Wedding of the Old World and the New, will be better known in history as "Woman's Era." "Columbus discovered America, but the American Congress has discovered woman," said an American queen, Mrs. Potter Palmer, at the opening of the World's Congress Auxiliary, October 21, 1892.

As the centripetal force of humanity, the essential brooding spirit of this new civilization, the mother heart whence the arteries and veins, and thence the nerves, muscles, bones, and sinews of a new life grow, it is right, fitting, and inevitable that, in this supreme hour, woman's position, development, purposes, outlook, and general relation to the world at large, should be announced, studied and discussed from every conceivable point of view.

What the world needs of her is the special topic of this paper. To begin with, one may safely declare that *the world needs more bread-winners.*

The right to life, liberty, and the pursuit of happiness, implies the right to the means whereby to live and to secure liberty and happiness. But in woman's case a gigantic obstacle interposes, and unless we can demonstrate that she is needed in remunerative fields of labor, her own needs will count for little. The serene, superior, boundless confidence man has in his ability

to provide for, protect, and fix the place and station of every woman on earth, is only equaled by the placid unconcern with which he passes away from this planet without leaving wife or daughter a dollar in the world, or a dollar's worth of earning capacity.

The truth is, there is no natural nor logical reason why all men should support, or claim or undertake to support, all women and children. It is too large a contract. It is not a true division of labor, nor wise political economy. Nor is there any just reason why the labor of the world should be divided into paid and unpaid labor, and all the paid labor should be man's work, and all the unpaid woman's work. Women, nowadays, generally know that they are working hard enough to earn, and far more than earn, their own living, and this under the greatest possible disadvantages. The protection and support theory sounds noble, but it isn't true. Women have found out that it is largely "pretty talk," good for courting days. President Lincoln is reputed to have said, "You may fool some of the people all of the time, or all of the people some of the time, but you can't fool all of the people all of the time." The patriarchal system is dead. Peace to its ashes!

The world needs more brain-workers. No man should wait until he is obliged to earn his own living before he sets himself about it. All the forces within him should cry out for activity. This is equally true of woman. "Obliged to earn her own living!" say you? Yes, obliged to win and preserve her own self-respect, her natural love of independence, to fulfill her share of the grand activities of the grandest age the world has known, to live out her surging, abundant life in congenial work. The world needs her rich young brain, her swift, skillful fingers, her keen, intuitive perception, her tender conscience, her tireless devotion to duty; and to withhold all these from their proper expression not only defrauds her of her birthright, and harnesses the eagle to the plow, but it defrauds the world of the wealth locked up in her royal capabilities, and is a lavish waste of God's bounty in human brains.

The world needs more home-builders. And here the oft-quoted and ever just and timely criticism of Emily Faithfull, of England, should be reaffirmed: "It is a cruel mockery to tell women who have no home, that home is woman's proper sphere," and it is far more cruel to taunt gentle, true-hearted women, who some way have missed marriage, by telling them that every woman should be a wife and mother.

The world needs wiser marriages. The most indignant remonstrance against business training for women I ever heard was from a popular member of Congress, who said, "Do you wish to make young women so independent that they will not need to marry? Your ideas would wreck the world, if people believed in them, which, thank heaven, they do not!" One would think this gentleman, whose wife really loved him devotedly,

and blindly indorsed all his opinions, would have preferred a woman who felt compelled to marry him for a home, or impelled to marry him for social station.

The world needs an intelligent distribution of its wealth. Shall millions of men risk their lives exploring the caverns of the earth and the depths of the air and sea for gold, silver, plumage, pearls, and diamonds, only that a few favored women may be decked in jewels or clad in furs and seal skins?

“ To paint the lily,
Or add another hue unto the rainbow,
Is wasteful and ridiculous excess.”

This small fractional portion of womankind, whose splendid array and gorgeous coming and going through the earth make them appear to be typical of the sheltered and protected ease and luxury of the entire womanhood of the world, will receive in this paper our late but respectful consideration.

It cannot be that womankind has no other interest in the precious wealth of the world than to make herself irresistibly attractive to its few possessors, and thus to bear off the palm before all others, and to win and wear their gold and jewels. Ignoble destiny! Worthy of the Circassian slave or the queen of the seraglio!

Few women of America bear that relation to the wealth of the world.

As a fact, the larger portion of the great fortunes made by men in this country were made after marriage, and the wives of these men, having shared with them the early days of poverty and struggle, know well how to sympathize with their toiling sisters, understanding also, too well, that poverty may be the least of their misfortunes.

The world needs a wiser administration of its charities. If it is still largely true that “one half of the world does not know how the other half lives,” and that, in great cities, the “submerged tenth” continue to poison the air that all must breathe, it is also true that there is to-day being done, and wisely done, on this planet more truly benevolent work for the genuine uplifting of humanity, than in all the other ages of human history taken together. Evils are no longer accepted as inevitable, necessary, and eternal, but as symptoms of a state of humanity susceptible of treatment. The work of redemption is largely in the hands of women. And it is work, real brain and heart work, of the finest, most subtle and delicate description. If it does, as it does, incidentally, involve the handling of large sums of money, the money is not generally used to pay people for becoming and remaining paupers, and thus sinking them deeper in degradation, but for disseminating information, living truths, to lift them to a higher plane, educating their children to useful labor, and thus permanently improving their condition; offering “not alms, but a friend and a helping hand.”

The exhibits of the work of women in all departments of this Columbian Exposition indicate that the women of all the world are now in kindly competition with each other in the development of special talent, inherited genius, and acquired skill in invention, construction and production, to meet every phase of human need. And everywhere the truly womanly and motherly spirit is manifest, from the kitchen knife that will do execution and not cut the fingers, to the humane cattle cars, and improvements in the life-saving service; from the tender training of infants, to skillful methods of alleviating the horrors of war, and securing safety in public travel.

Everywhere her work symbolizes the strength, symmetry, grace, and beauty of the usefully trained, nobly developed daughters of this new age, this memorable Woman's Era.

RECIPROCAL RELATIONS AND BENEFITS OF BUSINESS AND OTHER DEPARTMENTS OF EDUCATION.

ABSTRACT OF A PAPER BY DR. IRA MAYHEW, DETROIT, MICH.

UNDER the prevailing systems of education in this country, up to the middle of the present century, bookkeeping was not taught in any grade of our public schools. It was not required preparatory to admission to college, neither was it embraced in the curricula of these institutions, nor taught in any of our professional schools. Under such a system of education an enterprising and successful merchant might send his sons through college, and then through schools of law, medicine, or divinity, without their having an opportunity to master the principles of accounts. Under such circumstances, in case of the disability of the father, none of his so-called liberally educated sons would be able to carry on or close up his business, or properly to comprehend its condition from an examination of his books of account. Surely such a system of education, whatever excellences it may possess, is manifestly radically defective.

About the middle of the century a number of persons, embracing both educators and business men, realizing the situation, undertook to remedy the difficulty: some of them, by the preparation of books teaching the science adapted to use in schools, and by opening what were known as initiatory counting rooms, mercantile institutes, and the like, for preparing young men as accountants; others of them, without the use of textbooks on the subject, taught from manuscript sets, giving especial attention to penmanship, including ornamental work and flourishing. Many of these earlier enterprises were conducted by persons of limited general education, who severely criticised established schools for their disregard of bookkeeping; and these schools, in turn, criticised this new departure in

education, conducted by illiterate men (as they claimed), but which, by its attractive features, drew largely upon the patronage of old and established schools. These new schools, it was further claimed by their critics, were superficial in their teaching, and on the whole injurious to the cause of sound learning.

But this era of unfriendly criticism, it is believed, has now become a thing of the past, and both literary schools and business colleges better understand and appreciate each other's work. Many of the business colleges, at first, were open to criticism, and profited by it; and the same is true of literary schools. In like manner business colleges, while improving in their business methods, are gaining in their literary standing.

There are various ways in which strictly literary institutions and purely business schools mutually benefit each other, and render valuable service to one another's students. Cases have come under the writer's personal observation where young men who have not had awakened in them an interest in the studies of the literary school, have fallen behind their classes, have failed to receive promotion, and have finally, under advice, left school. Later, these same persons have entered a judiciously conducted business college, become interested in its range of work and methods of study, completed its course with credit, and become successful in business, and having thus learned how to study, have taken up literary work in connection with business and achieved success in both. In such cases the business school is surely a godsend to the young man it develops and saves from becoming a drone in the community.

The writer has also known of other cases where literary students have held their positions in their classes until graduation at college, without becoming specially interested in any of their studies, or seeing how these studies could aid them in preparing for or obtaining a position in business. They realized that they were not qualified to engage in teaching. They had neither taste, time, nor means for studying a profession. Their education had not fitted them for business. They were prepared for no work but what an average school-boy could do quite as well as they. A few months' study in a good business school would have better fitted them for business, or put them in better condition for obtaining a situation in which they could earn a comfortable support, than the years of unproductive study they had engaged in.

We have seen how the remarkable growth of our country has rendered a correspondingly broad business culture a necessity, and how the business school, which has done much towards creating this demand, has also contributed largely toward meeting it. No matter how ample one's literary attainments may be, these alone will not fit him for the practice of medicine or the law. Special training is necessary for the successful practice of these professions. The more general culture one has before entering upon either of them, the better his opportunity for achieving success in it.

The same is equally true of business. Men who engage in it without due preparation rarely attain success, and in most cases utterly fail. On the other hand, the better the preparation, the deeper and broader the foundation laid, the surer the prospect of attaining success. Occasionally some genius may achieve remarkable results without seeming preparation. But this is the exception, not the rule. The business college bears the same relation to business life that the law school and medical college do to professional life. In all cases alike, the more general culture one possesses, the better the prospect of success in his specialty.

Should business schools simply make good bookkeepers, they would be of great benefit in a commercial nation like ours. But the ideal college not only does this, but it so cultivates the judgment and develops the judicial powers that its students take a firmer grasp of the great problems of life, gain far-reaching conceptions of cause and effect, and entertain higher aims and know better how to realize them. They cannot fail thus to prove of incalculable benefit to the country.

What has been said of the need of supplementing the work of literary schools with a course of business study, applies equally to scientific and professional schools, and to complex pursuits where several branches of arts, manufactures or trades are carried on, and where purchases for use in one branch are paid for in sales from another. In all such cases it is necessary to know not only how to operate each branch of business carried on, but to be able to keep accounts so as to show the cost and returns of each branch of business conducted; otherwise, although the *net result of the whole* may be determined, while there has been *great gain* in some and *loss* in others, still the particular sources of gain and loss may not be known. Only a good knowledge and the careful practice of bookkeeping can in such cases bring to light the facts required to be known, in order to so change the management of the business as to increase the gains and reduce the losses, and thus place the business as a whole upon a better footing.

A BUSINESS MAN'S EDUCATION—CONCLUDING ADDRESS.

BY DR. JAMES MACALISTER, PRESIDENT DREXEL INSTITUTE,
PHILADELPHIA.

I HAVE no right to speak on business education, first, because I am not and never have been a business man; and, secondly, I have never studied or taught business as a branch of education. I have thought a great deal about it and have a very profound interest in it. Just as I came in I heard a remark dropped about giving women a business education. Well, that is a matter that I have had occasion to look at in a very practical way. I think that is one of the great needs of our society at the present time. I believe that as a general thing women know very little about business. I do not know that they are altogether to blame. There are a great many families, probably some in Chicago, where

the wife knows nothing of her husband's resources or the future of her family, so far as business is concerned.

One of the rich men of the East, who was a partner in one of the largest banking houses in America, died a few years ago, leaving millions of dollars to his three daughters. These three young women thus became the richest unmarried girls in America. This man was a banker, and he trained those girls in business. He did not choose to leave the money to a trust company. He left three men, one of them his brother, a partner, another a dear friend, to assist them. He had trained these daughters in finance, he had trained them in business, and to-day one of them, whom I know intimately, has as clear a head about the management of her millions as any man who is struggling along with a business of fifty thousand dollars. Her wealth does not grow less. I merely mention this to show that there is a good deal in business education, and I have always thought it an indictment almost of the elementary public school that arithmetic, which forms so large a portion of the course of instruction, is of so unpractical a character that it is possible for a girl or a boy to spend eight or nine years in the elementary school, and leave it with perhaps a very accurate knowledge of all kinds of fractions, and know very little indeed about the real affairs of life, so far as they relate to business.

And so the matter of professional education becomes of importance; and I take it, sir, that this is the chief purpose of this Congress—the discussion of professional education. Now, I cannot say too much on that. It is one of the great needs of this country. With our enormous wealth and unrivaled resources, and our opportunities for business, and for each man rising in the business world, unequaled anywhere else, or in any period of the world's history, yet less provision has been made for professional education than any other. In France and in Germany it is a matter of government duty. The government thinks it just as much its duty to provide professional colleges in business as it does in technology, in art, and in science, and so you will find in Paris great magnificent schools in one of the finest social centers, and with the tricolor of the republic over the great gables; that is the great college for training merchants of the highest order, just as the state trains lawyers, and physicians, and soldiers, and sailors, and scientists, and scholars. The course of study there is most elaborate. They think there, as we all think, that the business man should have a broad, general character. I don't know of any who need it more than the business man does. There is no reason at all why a business man should not be an educated gentleman.

I take it that a general, broad education is more important to a business man than to a lawyer, because the lawyer's is a very specialized profession; the business man has the broadest outlook and covers a larger field than any man in the activities of the world. Guibert the great historian said, "The merchant is the friend of man," and that is true. There is no man who does more for the progress and the elevation of humanity than the great industrialist. The ultimate end of all education, of all human education, primary, secondary, and higher, is to put man in true relation to his entire environment, the environment of nature, the great world and universe all around him, to his social environment, to all the duties and obligations that relate men to each other, and I would say, also, to his economic and commercial environment.

One-half of the millions spent on taxes in this country is wasted, because of the manner in which education is administered. In high schools here and there they have a business course, but it is not a professional education. It serves a good purpose, and the more girls you can get to take it, the better, but it is not professional. This country does nothing for professional education in business, and so it has been left to private enterprises, and we owe a great debt of gratitude to the enterprising men who have devoted their lives to that work, and I do not think with altogether an interested motive. To-day I believe we are suffering from the want of an adequate knowledge of

the science of business in this country. There is not any legislature in the world where you will find such an absolute ignorance of finance as in the American Congress. I do not look with any faith to the approaching session of Congress, because they do not know how to settle the great questions that are of the most serious importance to the people at this moment. When we go back to the Revolution and try to name the one great man, and name next to him the great statesman of that epoch, with one mind all turn to Alexander Hamilton, who laid the financial basis of this nation. So when we go to European countries, we find that the great statesmen are the men who are best fitted to deal with financial and business problems. The greatest statesman of the English-speaking world, perhaps the greatest it has ever had, is William E. Gladstone, and he won his spurs, as did all the prime ministers of England, by dealing with financial questions, and so it is in all the other countries of Europe. And it would be a most important and valuable result to our society, if these professional business colleges could educate men who go into our business affairs, who control the wealth which is ultimately the power of the nation.

The bar has not all the great men now, and I don't think the pulpit has. The medical profession is beginning to attract a great many able men. It is not true of the professions now as it was half a century ago, because a large amount of the intellect and the real power of the country has gone into business. I have had personal relations with a great banker, and I don't know of any man who earned his money as hard as he did. I don't know any man who needs more intellectual power and resource, and who works harder and who has graver responsibilities, than the man who takes care of our money; and so I think we should gain enormously if we could make it a rule that the door to business, as well as to the old and the new professions, should be through the professional business school. I hope I shall not be considered importunate if I express the hope that these professional schools would widen their training. As private enterprises, of course, they are dependent upon public support, but as I learn from my friend, and as I hear from others engaged in the business, there is an organized desire on their part that the curriculum in the business college shall be widened. How can any man hope to be a successful business man who does not understand the great economic laws of the world? I do believe that a great many miscarry in business simply because of total ignorance of the fundamental principles of economics, that it does not require a very large amount of serious study to master. I hope the time will come when the alphabet and the economics will be taught in the elementary school; but for business it seems to me that this ought to be included in the curriculum. And then there is the noble science of Commercial Geography—really a broad science, full of meat and full of learning, and one that would not only widen the whole outlook of the business man, but would give him a practical knowledge that would be of great value to him, if you choose, in an interesting sense. And then there are the great ethical considerations that ought to enter into business education. Ethical training is an absolute training for every human being, but at the same time it ought to enter into the professional training.

It has been a very great satisfaction to me to find that your work has received recognition by the National Educational Association, and that you now, like the other departments of education, have yours, and in that way your work has been dignified, because of its recognition, and it deserves it.

DEPARTMENT OF EDUCATIONAL JOURNALISM.

SECRETARY'S REPORT.

FIRST SESSION.—WEDNESDAY, JULY 26, 1893.

IN the absence of Hon. Henry Barnard, chairman of this department, Hon. Henry Sabin, of Des Moines, Iowa, was called to the chair.

Principal C. C. Rounds, of the State Normal School, Plymouth, N. H., delivered an address on "Present Ideals in Educational Journalism."

A paper by Señor Ramon Monterola, editor of the *Boletín Bibliográfico y Escolar*, Mexico, was read by Mr. Will S. Monroe, of Leland Stanford Jr. University.

Mr. Amos M. Kellogg, editor of the *School Journal* and *Teachers' Institute*, New York City, followed with a paper on "The Purpose and Reward of Educational Journals." A free discussion ensued, in which many members of the department participated.

SECOND SESSION.—FRIDAY, JULY 28, 1893.

The second meeting was made especially interesting by the presence of Hon. Henry Barnard, the oldest educational editor living, now in his eighty-third year. He spoke with the vigor and energy of a young man. He recommended that immediate steps be taken to provide for keeping in this country the entire educational exhibit at Jackson Park.

A committee was appointed, consisting of himself, Dr. MacAlister, of Drexel Institute, and C. W. Bardeen, of Syracuse, to devise a plan for this and report at the general meeting in the evening.

M. Compayré, the distinguished French author, read a history of educational journalism in France in the French language. Dr. MacAlister paid a graceful tribute to the great work France is doing in education. Principal Rounds said that no student was allowed to graduate from the New Hampshire State Normal School without enough knowledge of French to read French pedagogical literature in the original.

Papers were presented giving the history of school journals in different parts of America, and in Germany, Austria, Italy, Mexico, and India.

EDUCATIONAL JOURNALISM.

PRESENT IDEALS IN EDUCATIONAL JOURNALISM.

ABSTRACT OF THE ADDRESS BY C. C. ROUNDS, PRINCIPAL OF THE STATE
NORMAL SCHOOL, PLYMOUTH, N. H.

THE forms assumed by the educational journals of the United States are so manifold that it is difficult to discover clearly in them any one ideal toward the realization of which they are tending. There is less difficulty in discerning the slowly forming ideal of American education, and one may surely foresee the character of the journal which in the future is to voice the aspirations of this education. The leading characteristics of this ideal, the realization of which is, with more or less definiteness, the aim of the best educational journalism of the present, it is the purpose of this paper to present.

The educational journal must be a *journal of civilization*. Along the main lines of culture represented in school work, it must keep its readers well informed. Without claiming to be a journal of literature, of science or of art, it must speak with authority as to what is best in literature, as to what are the most important discoveries and advances in science, as to what is truest and most uplifting in art.

But it must be especially a *professional journal* in the broadest sense. It must have a belief and a purpose, not merely reflect the changing phases of educational thought. It must be a journal of the philosophy of education, and of methods as founded upon this philosophy; a journal of independent and of broadly philosophical discussion of movements in all lines of culture.

The interests of education demand that the sympathy of all cultivated people be enlisted in its behalf; that appeal be made not to teachers alone, but also to that larger class outside the profession who are interested in the progress and the methods of culture along many lines. Hence the educational journal of the future will deal more and more with the points of contact of the work of the school with the work of the world and with all human interests.

The civilized world is rapidly becoming one in purpose and in aspiration. Scientific journals, and the journals of all the other professions, represent this spirit by reporting the advances made in other lands and embodied in other speech than ours. In the school-house of city and country alike, we are educating citizens of the world. The American

journal of education must be *cosmopolitan*. It must represent critically, fairly, discriminatingly, the best educational thought of those nations which are moving together in the progress of the race.

The educational journal must be *comprehensive*. The time may come when all teachers at the beginning of their work will possess such a wide range of general and professional culture that the journal devoted to their special grade and work will suffice for them ; but that time is not yet.

The American teacher needs a wider intellectual horizon, and the special journal, if this be his only one, may do as much harm as good. The journal of devices, the journal of primary teaching alone, will make a teacher who knows only devices ; one whose thought is limited to the child that now is, and does not reach forward to the youth that is to be.

The ideal educational journal must be edited. A free parliament is well, but it must be kept in its place. The editorial force must decide as to what is needed, and call for it. This journal will have no place for gossip, but will gather discriminatingly from home and foreign fields the news which from day to day makes the current history of educational progress.

Nothing has been named which is not within the recognized scope of the journalism of to-day ; nothing less will place the educational journal in line with other professional journalism of authority. A larger support will come from appeal to wider sympathies and interests, from making the educational journal a necessity to all cultivated people. Such a journal will hold up the hands of teachers and guide their work in truer lines.

Toward the realization of such an ideal, American educational journals of the better class, in many ways, with more or less comprehensiveness of scope, with more or less clearness of vision, are now tending. May the progress be hastened !

EDUCATIONAL JOURNALISM IN NEW ENGLAND.

BY W. A. MOWRY, SUPERINTENDENT OF SCHOOLS, SALEM, MASS.

It has been by many supposed that the first educational periodical in the country was the *American Journal of Education*, published in Boston in 1826. This, however, is a mistake. On February 7, 1818, was published in New York the first number of the first volume of a periodical for teachers, entitled *The Academician*. Albert and John W. Pickett were the editors and publishers till it was discontinued on January 29, 1820.

The work contained a series of articles, critical and discriminating, upon the entire subject of grammar, English and general ; another series on the teaching of mathematics ; articles on the Lancasterian system of edu-

cation ; an important series of articles on Pestalozzi's method of teaching religious and moral principles to children ; a comparison between Pestalozzi, Bell, and Lancaster, and their methods ; accounts of various institutions of learning, such as Fellenburgh's School, the Virginia University, the Hartford Deaf and Dumb Institution, the New York Institution for Deaf and Dumb, William College, Columbia College, Union College, University of North Carolina, Fayetteville Academy, and other institutions. The quotations from Pestalozzi are extended and valuable. The department of philology is written from a high point, philosophically and philologically. The whole work from beginning to end is of high character, and would be of great service to any reader of the present day.

I have mentioned this *Academician* and given the above brief account of it for the purpose of correcting the too common error into which many have fallen, by supposing that the *American Journal of Education* was the first publication of this kind in the country.

THE "AMERICAN JOURNAL OF EDUCATION" AND "THE MASSACHUSETTS
COMMON SCHOOL JOURNAL."

The publication of this monthly periodical was begun in January, 1826. Dr. Henry Barnard is authority for the statement that the *Journal* was edited by William Russell, W. C. Woodbridge, and William A. Alcott. Mr. Russell retired from the editorship in January, 1829. The *Journal* then became bi-monthly. Two months later its name was changed to *American Annals of Education and Instruction, a Journal for Literary Institutions*. During this time its principal editor was William C. Woodbridge. Soon after his retirement, at the close of the volume of 1837, Dr. Alcott, who had assisted him, also withdrew, and M. G. Hubbard became the editor. A fatal mistake was made by the new editor. He turned the magazine away from its former broad design, and made it the advocate of high schools, academies, and colleges.

Horace Mann, who had meanwhile become secretary of the Massachusetts State Board of Education, looked with regret upon the change in the magazine, and in November, 1838, issued the first number of the *Common School Journal*. He continued to edit this periodical for ten years. The last number published under his care was that of December 18, 1848. He was succeeded by William B. Fowle, an earnest advocate of reform in educational matters at that day, who remained its editor until it was discontinued with the volume for 1852.

These two periodicals, *The American Journal of Education*, later called the *American Annals of Education and Instruction*, covering the period from 1826 to 1838, and the *Common School Journal* from 1838 to 1852, exercised a great influence upon the educational thought of America. Their subscription lists were never large, but they were read by the leading educators in all parts of the country.

"THE MASSACHUSETTS TEACHER."

The Massachusetts Teachers' Association at its second annual meeting, in November, 1846, decided to establish a teachers' journal. This led to the publication of *The Massachusetts Teacher*. Its first number appeared in January, 1848. The first editorial board consisted of Samuel W. Bates, of Boston; George B. Emerson, of Boston; Oliver Carlton, of Salem; Charles Northend, of Salem; Ariel Parish, of Springfield; C. S. Pannell, of Charlestown; John D. Philbrick, of Boston; Thomas Sherwin, of Boston; P. H. Sweetser, of Charlestown; Gideon F. Thayer, of Boston; Benjamin F. Tweed, of Charlestown; and William H. Wells, of Andover. Of these distinguished educators only Mr. Northend and Mr. Tweed are believed to be now living. The *Teacher* continued to be published under the auspices of the Teachers' Associations for twenty-seven years. A board of twelve editors was appointed annually by the Association, each person editing one number. During most of these years, in addition to the twelve editors there was also a resident editor.

"JOURNAL OF THE RHODE ISLAND INSTITUTE OF INSTRUCTION."

In 1845, the friends of education in Rhode Island, teachers, lawyers, clergymen, and business men, organized what has practically ever since been a State Teachers' Association. The name adopted, patterning after the name of the parent society, the American Institute of Instruction (organized 1830), whose constitution, in large measure, it adopted, was the Rhode Island Institute of Instruction. This Institute at once undertook through Dr. Henry Barnard the establishment of a periodical devoted to the interests of education, the first number of which appeared November 15, 1845. Its name was *The Journal of the Rhode Island Institute of Instruction*. The editorial department was under the care of the Hon. Henry Barnard, Commissioner of Public Schools. The first volume of this journal was completed in June, 1846, and consisted of fourteen numbers, embodied in 255 pages, to which were added thirteen numbers of extras, comprising 215 pages, and educational tracts of 141 pages, making in all 611 pages—a pretty formidable volume for the low price of fifty cents. Volumes two and three were still larger. The publication was then interrupted by Mr. Barnard's withdrawal from Rhode Island, having been appointed superintendent of the public schools of Connecticut.

The services of Mr. Barnard as school commissioner of Rhode Island from 1843 to 1849 was of the most vigorous character and of the greatest value. He was earnest, devoted, efficient, and a radical reformer. This *Journal*, like the *Common School Journal* to Horace Mann, was "his right arm" for both defensive and offensive efforts.

RHODE ISLAND "EDUCATIONAL MAGAZINE" AND "SCHOOLMASTER."

Mr. Barnard was succeeded by Hon. Elisha R. Potter as school commissioner of the State, who published, in 1852, a periodical with the above title. It was supported principally by the private contributions of gentlemen interested in advancing the cause to which it was devoted, and it was sent gratuitously to the chairmen and clerks of school committees and to the clerk of every school district.

At a meeting of the Rhode Island Institute, held in Providence, January 27, 1855, a vote was given in favor of the establishment of an educational journal. In response the *Rhode Island Schoolmaster* was issued. Its first number appeared in March, 1845. Mr. Allyn edited the magazine, assuming the entire financial risk of its publication, until he left the State in September, 1857. Mr. William A. Mowry then purchased it from him, and edited and published it until January, 1860. At this time it had become a vigorous and successful periodical, with a respectable list of subscribers, and was upon a paying basis. Mr. Mowry now turned it over to the Rhode Island Institute. A board of twelve editors was appointed, as follows: Henry R. Pierce, of Woonsocket; N. W. DeMunn, of Providence; Thomas Davis, of Pawtucket; A. J. Foster, of Westerly; Amos Perry, A. W. Godding, William A. Mowry, John J. Ladd, of Providence; Isaac F. Cady, of Warren; N. B. Cooke, of Bristol; Francis B. Snow, Albert J. Manchester, of Providence. The following writers became special contributors to its pages: Hon. J. B. Chapin, Commissioner of Public Schools; Rev. Daniel Leach, Superintendent of Schools, Providence; Rev. Micah J. Talbert, of East Greenwich; Albert A. Gamwell, of Providence; Profs. Samuel S. Greene and Robinson P. Dunn, of Brown University; and Rev. Robert Allyn, of Ohio.

In January, 1862, a new departure was made by appointing a long list of contributing editors, and assigning to each editor a particular subject. These subjects included the following: Political education, literature, natural science, didactics, questions for examination, grammar and rhetoric, reading and writing, moral culture, geology and botany, school discipline, physical education and physiology, history, languages, geography, mathematics. The same arrangement was continued for several years.

The number for March, 1869, gave notice that "The present number of the *Rhode Island Schoolmaster* is the last—at least for the present." The difficulty seemed to be that no proper arrangement could be made for editing it. In October of that year its publication was revived by Hon. Thomas W. Bicknell, who had been appointed commissioner of public schools for the State. Mr. Bicknell assumed the entire control financially, and for the next two years it was edited by T. B. Stockwell and T. W. Bicknell.

The volumes for 1872, 1873 and 1874 were under the exclusive control

of Mr. Bicknell. It still continued to be the organ of the Rhode Island Institute of Instruction, and this body annually appointed a board of contributing editors as heretofore. The December number for 1874 completed twenty years of its publication. At that time it was merged with the other teachers' journals of New England in the *New England Journal of Education*, which will be considered later.

The *Massachusetts Teacher* and the *Rhode Island Schoolmaster* stand out conspicuously among the journals of the New England States. They did not furnish the strong meat which had characterized the *American Journal of Education* or the *Common School Journal*, but they had appealed to the teachers of the common schools, had created among them a laudable ambition for improvement, had suggested better methods of instruction, better ideals of education, and established a higher type of school management and discipline. They did yeoman's service in their respective States in the cause of public education. They now give way to a better plan in the union of forces upon one journal, and that to be issued weekly and to cover the ground for all New England.

"THE CONNECTICUT COMMON SCHOOL JOURNAL."

Hon. Henry Barnard was Secretary of the Board of School Commissioners in Connecticut from 1838 to 1842. On entering upon the duties of his office, he at once saw the necessity of having a medium of communication upon school matters between him and the people. He, therefore, at once established a monthly periodical, styled *The Connecticut Common School Journal*, which he published, edited and owned, during these four years. It was chiefly intended to contain the school laws of the State and all such information concerning educational matters as the school officers and teachers should need.

When Mr. Barnard removed to Rhode Island to become the school commissioner for that State, this periodical ceased. On his return to Connecticut as superintendent of the schools of the State in 1850, he reëstablished the *Journal* and conducted it as before until 1854. At that time it was turned over to the Connecticut State Teachers' Association, which appointed an editorial committee in 1853.

The first board of editors under this new arrangement consisted of Hon. Henry Barnard, Hartford; Prof. John Brocklesby, Trinity College, Hartford; T. W. T. Curtiss, Principal of the High School, Hartford; David N. Camp, State Normal School, New Britain; Rev. E. B. Huntington, of the High School, Waterbury; Prof. John Johnston, Wesleyan University, Middletown; F. B. Perkins, Hartford; E. A. Lawrence, of the High School, Stamford; Prof. T. A. Thacher, Yale College, New Haven; and John D. Philbrick, Principal Normal School, New Britain. This board of editors was changed more or less from year to year. John D. Philbrick was the first resident editor of this monthly publication.

After several years Charles Northend became the editor, and later David N. Camp. The *Journal* was fairly well sustained by the teachers of the State, though never a source of profit to the Association. Frequent deficiencies in the funds for its publication were made up by contributions from leading teachers of the State. It proved to be an important aid to the State Department of Education as well as to the local school officers and public-school teachers. For several of the later years of its publication a small appropriation was made by the State, in return for which the *Journal* was sent to the school visitors of every town. This *Journal*, with others, was merged in the *New England Journal of Education*, January 1, 1875.

BARNARD'S "AMERICAN JOURNAL OF EDUCATION."

Dr. Barnard's experience with the *Connecticut Common School Journal*, between 1838 and 1842, convinced him that a monthly or quarterly magazine devoted exclusively to the history, statistics and discussion of systems, institutions and methods of education in different countries, but with special reference to the condition and needs of our American system of education, was highly desirable. During many years he collected a large amount of material, some of which he published in separate pamphlets. He endeavored at one time to enlist the aid of the American Institute of Instruction, but it had no money to devote to such a purpose. He made various efforts to secure the co-operation of the Smithsonian Institution but without success. He presented the subject to the American Association for the Advancement of Science, but that organization felt it necessary to confine its work to the more restrictive department of scientific investigation. Finally he determined to undertake the publication upon his own responsibility, of such a magazine which should prove a complete library of education.

At about this time he discovered that Rev. Absalom Peters, D.D., had in mind the project of publishing a periodical to be called the *American College Review and Educational Magazine*. Dr. Barnard joined forces with Dr. Peters, and they together as co-editors began the publication of *The American Journal of Education and College Review*. The first number was published in August, 1855. This number contained principally papers read at the meeting of the American Association for the Advancement of Education, which had been held in the city of Washington the previous December. The second number did not appear until January, 1856.

After the publication of these two numbers it became evident that the two editors had such widely divergent views as to what a periodical of this high character should be, that it was clearly desirable that they should divide their work. Dr. Peters, therefore, withdrew from the publication, and Dr. Barnard assumed entire charge of the work and continued it on

its original plan. The third number, therefore, was published in March, 1856, under the title of *The American Journal of Education*.

The new journal was fairly launched. The fourth number was issued in May, and the first volume was completed by a variety of supplementary papers, making in all a volume of 776 pages.

The second volume contained three numbers, regularly published in August, September and December, 1856; and the third volume two numbers, the first in March, 1857, the next number in June of that year. The fourth volume was a great improvement upon its predecessors in breadth and scope of its contents. The work was now thoroughly established, and received from every quarter the highest encomiums for its wide scope, and philosophical character. Its numbers were so large, with such a variety and quantity of material, that they could not be published with absolute regularity of time. The arrangement was not always the best. In the main it has been a quarterly. The work has extended to between thirty and forty volumes, each containing from six hundred to eight hundred octavo pages of important matter embracing all the departments of educational work.

Dr. Barnard's services as editor of this famous quarterly have given him a world-wide reputation as one of the most distinguished educators of this century. The journal as a whole is a great encyclopædia of knowledge, of facts, of principles, of philosophy, upon all departments of education; and its strength and solidity have won, both for it and its editor, the highest testimonial from the best educators of many lands. It is without a peer in the breadth of its discussion of systems, institutions, public schools, private schools, technical and special schools, and the history, biography and philosophy of educational matters. It has been throughout its whole history edited by Dr. Barnard and published in Hartford, Connecticut, but it is thoroughly national in its character and perhaps as highly appreciated in Europe as in this country.

"THE MAINE TEACHER."

Between the years 1849 and 1858 there were several attempts in the State of Maine to establish a periodical for the schools. The first of which I have any knowledge was in the former year, and was entitled *The Scholar's Leaf*. Later was another effort called *The Common School Advocate*. The first of these was principally for the pupils in the schools, the second was designed rather for the teachers. The life of each was brief, and needs, perhaps, no further consideration here.

In 1858 appeared the first number of *The Maine Teacher*, a monthly periodical. It was established by Mark H. Dunnell, the State Superintendent of Schools. Two years later, when Mr. E. P. Weston became the State School Superintendent, it was continued under his care, but was suspended in 1864. It was revived the next year under the name of *The*

Maine Journal, by Mr. George M. Gage of the Western Normal School. From this time it was conducted with much vigor, and among its contributors were Rev. Jacob Abbott of Farmington ; Hon. E. P. Weston, State Superintendent of Schools ; Dr. A. P. Stone of Portland, and many of the leading teachers of the State. For three years it was published by a Mr. Swift.

In 1868 Mr. Brown Thurston became its publisher, and it was issued from Portland. In January, 1869, its name was changed to *The Maine Journal of Education*. Mr. Thurston remained as publisher and proprietor, and Dr. A. P. Stone became its principal editor, assisted by twelve monthly editors, comprising the several principals of the normal schools of that State, some of the county supervisors, and several of the more prominent teachers.

In 1873 and 1874 its editor was Mr. Albro E. Chase, of the Portland High School. At the beginning of the volume for 1875 it was absorbed by the *New England Journal of Education*, published in Boston. This Maine journal differed in its character and make-up materially from year to year. Neither its ability nor its success was uniform. It could succeed in doing much good to the State educationally, but it never could succeed financially, farther than pay the necessary bills for its publication.

"THE NEW HAMPSHIRE SCHOOL JOURNAL."

The movement in New Hampshire for a State educational journal began in January, 1857. The pioneer in this work for that State was Rev. William L. Gage, who had just returned from an extended residence in Germany, and his whole soul was aroused in the interest of educational affairs in this country. He established *The New Hampshire School Journal*, and at first was its sole editor, publisher, and proprietor. Like the other State journals of its time, it was in the form of a monthly pamphlet of thirty-two pages, and was published at one dollar a year.

In 1858 Mr. Gage turned over the subscription list and good-will of the paper to the New Hampshire Teachers' Association, and Mr. Henry E. Sawyer, then of Concord, became its editor, by appointment of the Association, with an associate board of twelve assistants. Mr. Sawyer edited the *Journal* with ability for about three years, when he was succeeded by Mr. Jonathan Tenney. The subscription list, however, was never large enough to make the investment a paying business, and its publication ceased in 1863.

"THE VERMONT SCHOOL JOURNAL."

The first effort in Vermont for a school periodical was made in May, 1847, when Messrs. Bishop and Tracey, of Windsor, began the publication of *The School Journal and Vermont Agriculturist*. This was a

pamphlet of sixteen pages, one-half of its space being devoted to the public schools, and the other half to agriculture. It was published for three years, but not proving profitable to the publishers was then discontinued. After this came *The Teacher's Voice*, which was published by Mr. J. K. Pangborn for about a year and a half.

The *Vermont School Journal* was established by the Vermont Teachers' Association in April, 1859. Its first editors were A. E. Leavenworth and G. S. Spaulding. The editors assumed the financial responsibility of its publication, which they continued through 1859 and 1860. Mr. Hiram Orcutt then succeeded Mr. Spaulding. For two years it was published by Mr. Orcutt and Mr. Leavenworth. At the expiration of that period Mr. Orcutt took the entire charge of the *Journal*, assuming the responsibility of its publication, and editing it with vigor and success for three years. When Mr. Orcutt removed to New Hampshire its publication ceased.

“THE NEW ENGLAND JOURNAL OF EDUCATION.”

The *Journal of Education* is to-day one of the very few educational journals in this country published weekly. Practically it shares its honors only with the *New York School Journal*. The latter was first established, and has that flavor which comes from age and experience. The *Journal of Education* was at first called *The New England Journal of Education*, and its first number appeared in January 2, 1875. It was the result of a long-continued effort on the part of several of the leading educational men in New England to unite the different State journals in one periodical for New England. The writer of this article believes himself to have been the first one to propose this plan, and for a long period prior to its accomplishment he had persistently advocated the scheme and called public attention to its desirability.

The project took definite shape at the famous forty-fifth annual meeting of the American Institute of Instruction, which was held at North Adams in July, 1874. In the midst of the discussions as to what plans to adopt to infuse new life and a vigor of business management in the association, the scheme of uniting the New England educational journals was the most vital. It was urged by such men as Dr. George B. Emerson, Dr. Merriek Lyon, Rev. C. Hammond, Hon. B. G. Northrop, Hon. Thomas Bicknell, the writer of this article, and others; and the institute voted unanimously to recommend an earnest effort to unite the several State journals in one strong and able paper. It was recommended also that the American Institute of Instruction, the teachers' associations of the several New England States, and the managers of the several school journals of New England, be invited to co-operate in securing the union of these educational agencies in establishing such a journal as would meet the wants and demands of the educators in and out of New England. It

was voted also that an advisory council of twelve be appointed to make all arrangements for the organization of the enterprise. This council was to be composed of two members from each New England State, one to be elected by the American Institute from each State, and the others by the State association, one each. This committee decided that the advisory council should appoint an editor and a publisher, and that each State teachers' association should be asked to elect a State editor.

At a meeting of the directors of the American Institute, held in Boston in November, the committee made its report. Hon. T. W. Bicknell was elected editor of the new journal, and Charles C. Chatfield, publisher of *The College Courant*, was chosen as publisher. It was recommended that the paper should be published weekly.

After the organization was completed and all arrangements made, the new *Journal* entered upon its career at the beginning of 1875. It met with favor everywhere. Mr. Bicknell continued as editor and chief manager until the beginning of the year 1886.

The writer of this paper connected himself with this *Journal* in the summer of 1884 and was its managing editor until January, 1886. Personal reasons then induced him to withdraw from the *Journal* and the company which published it. A few weeks later, Mr. Bicknell sold out his interest in the concern to Rev. A. E. Winship, who has been its chief editor till the present time. The *Journal* is now in its nineteenth year; is as vigorous as ever; has a wide circulation, and is doing, as it has done, good service in the cause of popular education.

"THE AMERICAN TEACHER."

The *Primary Teacher* was a monthly paper published in Boston from 1878 to September, 1883. It was edited principally by Mr. William E. Sheldon, and was one of the most practical and valuable primary papers yet published in this country. In 1881 began the publication of *The Public School*, also monthly, of the same size and shape as the *Primary Teacher*. These two papers, in September, 1883, were united under the name of *The American Teacher*. The editors were Mr. Bicknell, Mr. Sheldon, and W. N. Hailman. It still continues to be published, and Mr. Sheldon still remains as its principal editor. It has now completed ten annual volumes, and has a large subscription list from all parts of the country.

"EDUCATION."

In September, 1880, began the career of a magazine of high grade which was at first published bi-monthly. It was called *Education*, an international magazine devoted to the science, art, philosophy, and literature of education. It was edited by Mr. Bicknell until January, 1886, when the writer of this paper became its editor, publisher and proprietor. He con-

tinued its publication until January, 1891, when Rev. Frank H. Kasson became its editor and publisher. Mr. Kasson, together with Rev. Frank H. Palmer, whom he has associated with himself both editorially and in its business management, continues its publication at the present time.

This magazine, from the beginning struck out a new path among the educational publications of America. For thirteen years it has discussed, in a vigorous and philosophical manner, the great problems of American education. The contributors to this magazine embrace names of many of the most prominent educational men and women of this country, and it has published many articles from the pens of prominent English educators. Its subscription list, while never very large, has included many representative names from all parts of this country, from Great Britain, France, India, China and Japan. The thirteen bound volumes of this magazine embrace more than eight thousand pages of educational material, covering a great variety of subjects, and forming altogether a creditable addition to our American pedagogical literature.

"COMMON SCHOOL EDUCATION."

The writer of this article began in January, 1887, the publication, in Boston, of a magazine for common-school teachers, which was entitled *Common School Education*, devoted to the art of instruction. Its publication was continued until June, 1891, when it was merged with *The Teacher's World*, published in New York, which from that time took the name *Common School Education and The Teacher's World*.

"THE POPULAR EDUCATOR."

About the year 1884, several gentlemen in Boston started a new educational monthly with the above title. It did not give the name of its editor, but it was generally understood that one of the Boston grammar masters had something to do with its pages. From the outset the paper assumed a positive and aggressive character, taking a decided position upon leading questions, and furnishing to its readers a great variety and a large quantity of material. It has, for the past ten years, dealt largely with schoolroom devices and methods of instruction. Latterly it has devoted more attention to the principles which underlie good teaching. Its subscription list rapidly increased, and for years it has claimed the largest list of subscribers, perhaps of any educational paper in the country.

"PRIMARY EDUCATION."

In January, 1893, began in Boston the publication of a new monthly paper with the above title. Its name indicates its purpose and scope. It is edited by Mrs. Eva D. Kellogg, who has had large experience as a teacher in Boston, in normal schools at the West, in the work of city superintendency, and as assistant editor on the *New York School Journal*.

DR. BARNARD'S AMERICAN JOURNAL OF EDUCATION.

BY WILL S. MONROE, LELAND STANFORD UNIVERSITY, CALIFORNIA.

AT the meeting of the American Association for the Advancement of Education, held at the Smithsonian Institution, Washington, December 26, 1854, Dr. Barnard submitted a "plan of central agency for the advancement of education in the United States," one of the features of which was the publication of a journal of education, to be issued monthly or quarterly, embracing accounts of systems, institutions, and methods of education, as well as current educational thought. The plan was approved, and a standing committee was appointed to carry it into execution as fast as the funds of the association would permit. But the absence of funds and of pledges of pecuniary co-operation prevented the committee from carrying the plan into execution; so that Dr. Barnard on his own responsibility decided to undertake its publication.

The first number of the *Journal* appeared in August, 1855. The second number appeared the following January, the third in March, and the fourth in May. Volume I. was completed May, 1856.

Dr. Barnard's acquaintance with schoolmen and institutions in Europe during his travels of 1835-6, and his visit to London in 1854 to attend the educational exhibit and congress at St. Martyn's Hall, were supplemented by five subsequent European trips, correspondence, and by exchange of letters and educational documents, thus enabling him to accumulate a vast library of the choicest and most instructive parts of the educational literature of all times and peoples. Important articles and monographs from these various sources he had translated at his own expense; and the first ten volumes of the *Journal* contain no less than forty-five articles from Von Raumer's "*Geschichte der Pädagogik*," all of vol. iii. of Savigny's "*Geschichte des Römischen Rechts im Mittelalter*," portions of Bonghi's "*Publica Istruzione*," and numerous other articles from standard foreign works published in Germany, France, Switzerland, Italy, and Great Britain.

Upon the completion of the ten volumes promised, realizing the importance and scope of the work before him, he decided to continue the publication of the *Journal*; and March, 1862, he wrote in the preface to Volume XI.:

"With a moderate encouragement from the thoughtful and active friends of educational improvement, we shall continue our quarterly issues until they have at least reached six (more) volumes."

Volume XVI. was completed in 1866, and two volumes of the *Journal* were published at irregular intervals during Dr. Barnard's connection with

St. John's College and the Bureau of Education. In the prefatory note to Volume XXI., he wrote :

“ With this number (for January, 1871) we resume the regular publication of *The American Journal of Education*, which has been somewhat interrupted, although not positively suspended, during our connection with the department and office of *Education*. We hope to receive sufficient encouragement to enable us to continue our articles, original and selected, on the existing conditions and movements of education, until we have something like a comprehensive survey of the past history and present conditions.”

With little to encourage him in his great undertaking, save the consciousness of the need of such a publication, Dr. Barnard continued to edit *The American Journal of Education* until the completion of the work as it stands to-day in thirty-one large octave volumes. In a letter to the late Robert Herbert Quick, written January 24, 1878, he says :

“ The publication of the *Journal* has proved pecuniarily disastrous. The subscriptions, paid in from year to year, have never met the expenses of publication. My small income has been reduced by the deprivation of office and the pressure of the times. No publisher can be induced to undertake the responsibility of the *Journal*; and to carry on the work to a point where the encyclopædic scope of the undertaking could be seen and appreciated has involved my little property in mortgages, and myself in obligations which I am now making a desperate effort to meet. If I am successful in disposing of enough sets of volumes of the *Journal* to meet the obligations which mature before the first day of May, I shall continue the publication to the close of Volume XXVIII. If I am not successful, the plates (25,000 pages with more than 1,000 illustrations of school structures) which have cost over \$40,000, will go into the melting pot for type metal, and the volumes on hand will be sold to buyers who may apply within a given time, and, at the expiration of that time, will be converted into pulp by the paper makers, and the avails thus realized will be applied, as far as they go, to meet my obligations ; and thus will end with me an enterprise which has absorbed my best energies for the last twenty years.”

Mr. Quick wrote in reply to the New England superintendents :

“ I would as soon hear that there was talk of pulling down one of our cathedrals and selling the stones for building material.”

The American Journal of Education is not a school journal or review, in the accepted use of those words, but, as Mr. Quick has aptly remarked, a vast encyclopædia of educational literature. In the domain of historical pedagogy, it gives accounts of the development of human culture, both theoretical and practical, under varying conditions of race, climate, religion and government ; the attempts at systematic training of children in the family and schools, by parents and teachers, among the nations of the

East through the writings of Confucius in China, the Vedas and Buddha in India, Zoroaster in Persia, the Ptolemies in Egypt, and Moses, Solomon, and the rabbis in Palestine ; among the Greeks, through the institutions of Pythagoras and Solon, and the teaching of Socrates and Aristotle ; among the Romans, through the didactics of Cato, Seneca and Quintilian ; among the modern nations of Europe, through the schools peculiar to the early Christians—those of Chrysostom and Basil, the catechetical school at Alexandria, the monastic and cloister schools of Saint Jerome and Tertullian, the court schools of Charlemagne and the educational labors of Alcuin, the modifications wrought through the influences of Arabian learning with the establishment of Mohammedanism in the seventh century, the domination of the religious conceptions of Abelard and scholasticism, the rise and growth of universities and the awakening of the scientific spirit, the revival of letters and the study of the classics, the long protracted struggle between humanism and realism, and the gradual expansion and realization of universal education. These are some of the lines of historical thought, more or less fully developed, that one finds in studying the historical development of the human intellect in these thirty-one volumes of Dr. Barnard's journal.

Systems of education in the Old World and in the New, normal schools and other institutions devoted to the professional training of teachers, the organization and curricula of colleges and technical schools, institutions for criminals and defective classes, physical education, school architecture, and other departments of theoretical and practical pedagogy find full and clear expression in the twenty-seven thousand pages of choice literature printed in *The American Journal of Education*.

Oscar Browning says in the *Encyclopædia Britannica* :

"The great work of Henry Barnard, *The American Journal of Education*, has valuable papers on almost every part of our subject (education) ; it is by far the most valuable work in our language on the history of education."

President D. C. Gilman, in an article devoted to the educational development of our country, published in *The North American Review* for January, 1876, says :

"It is the best and only general authority in respect to the progress of American education during the past century. The comprehensiveness of this work, and its persistent publication under many adverse circumstances, entitle the editor to the grateful recognition of all investigators of our system of instruction."

THE PURPOSE AND REWARD OF EDUCATIONAL JOURNALS.*

BY AMOS M. KELLOGG, EDITOR OF "THE SCHOOL JOURNAL," NEW YORK.

THE educational journalist aims to diffuse a right idea of education. When Horace Mann undertook that seemingly impossible task of placing the teacher and the school in just position before Massachusetts, he felt the necessity of an educational journal; and the rich results that followed his labors came from his eloquent pleading aided by his equally eloquent writing.

The same course was followed in New York; to aid in the effort to lift the schools out of the degradation in which they existed, Edmund Dwight spent much of his private fortune in publishing *The District School Journal*. The great upheaval there was due to David P. Page and that paper. In every attempt to realize a higher ideal of education, the educational journal has played an important if not the leading part.

While the publishers of educational journals may never obtain the credit they deserve for having attempted, like Moses, to lift a pillar of light above the advancing hosts in our school-room, there is a vast debt due, and in a moderate measure it is recognized. Their recompense must lie greatly in this recognition, for certainly no one would perform the work demanded with the hope of obtaining a pecuniary reward equal to the outlay. Works of real beneficence are rarely profitable. There is an abundance of teachers who do not make any money; they aim solely at usefulness. The educational journalist is of this class of men.

DISCUSSION.

HENRY SABIN: Every journal has its own ideal. The time will come when the educational journal will be as much of a power in shaping educational thought as the normal school.

W. A. BELL: The ideal paper should be a leader, it should be suggestive. The journals should aim to set before its readers something a little higher than they have. But there is a business side that has to be considered; you must modify your ideal to secure a larger number of readers. Yet even when the standard is lowered, the aim should be to give the reader a touch of what is better than he now has. To secure the best results the paper must have specialists in charge of the departments, so that the best thought can be secured, and at the same time there may be some continuity and connection in the articles presented.

JAMES CANFIELD: The educational press has already done much to elevate the teaching profession. Even those journals which do nothing but criticise accomplish some good.

GEO. P. BROWN: The editor must provide material for the careful advanced thinker and also for the mass of its readers. He must do missionary work to uplift the average reader.

* The paper of which this is an abstract was published in full in vol. xlvii, No. 9 (Sept. 9, 1893), of *The School Journal*, New York; E. L. Kellogg & Co., Publishers.

E. O. VAILE: This ideal journal is a myth. Neither editors nor teachers ought to pursue their occupations as missionaries.

C. W. BARDEEN: An oration is not good unless it can command an audience. It is just so with journalism. Educational journals must secure a public, that is the first essential. Fifteen years ago very few teachers read school journals. Now one paper that I know has fifty thousand subscribers. Reasons why they take them now are that the teacher is allowed a percentage for taking educational journals. This gets subscribers, but they have not yet reached the point where they can discriminate between papers. Still it is an advance that they take papers even on this consideration.

WILLIAM S. MONROE: The ideal journal ought to treat more of the history of education. It ought to give the ideals of great thinkers in the educational world.

MISS ANDREA HOFER: There ought to be a journal that would reach the mother teachers from a less technical standpoint.

GEO. P. BROWN: Every school journal in this commercial age must be a business success, but while making it a business success, we must try to work out an ideal.

EDUCATIONAL JOURNALS IN NEW YORK.*

IN educational journalism New York makes three claims: (1) to the earliest educational journal published in English; (2) to the most thorough trial of the educational journal as an official publication, having had for a time two such journals contemporaneously, one representing the Department of Public Instruction, and the other the State Teachers' Association; (3) to a series of educational journals of such continuance and character that they depict her educational history more minutely than that of any other State recorded.

"THE ACADEMICIAN," 1818-1819.

On February 7, 1818, appeared the first number of *The Academician*, a semi-weekly octavo ($6 \times 9\frac{1}{2}$) of sixteen pages, at \$3 per year. The editors were Albert Picket,† president of the Incorporated Society of Teachers, and John W. Picket, corresponding secretary of the same.

"THE COMMON SCHOOL ASSISTANT," 1836-1840.

In January, 1836, there was issued at Albany the first number of a quarto ($8\frac{1}{2} \times 10\frac{1}{2}$) journal of eight pages, published, at fifty cents a year, by J. Orville Taylor.

Mr. Taylor was widely known as an educational leader. He was born in Charlton, May 14, 1807; fitted at the academy at Cherry Valley, and graduated from Union College in 1830, after which he studied law in New Haven.

* These statements relating to educational journals in New York are taken from a paper read before the Department of Educational Journalism, of the International Congress of Education, by C. W. Bardeen, editor of the *School Bulletin*. The entire paper, valuable for its full information, is published in a pamphlet of forty-five pages, entitled: *The History of Educational Journalism in the State of New York*. By C. W. Bardeen, Syracuse, N. Y.

† Barnard, xv. 544.

“THE DISTRICT SCHOOL JOURNAL OF THE STATE OF NEW YORK,”
1840-1852.

The District School Journal was started March 25, 1840, at Geneva, by Francis Dwight, as an eight-page quarto ($9 \times 11\frac{1}{2}$). The issue of *The District School Journal* for July 1, 1841, contained the announcement of Superintendent John O. Spencer that this was the periodical selected by him, and would be regarded as the official organ of communication with the officers and inhabitants of the several districts. The superintendent took great pleasure in again commending this publication to the favorable consideration and liberal support of the friends of education generally, remarking that the favorable successful prosecution of the work must depend chiefly upon the individual subscription, as the amount authorized to be subscribed by the State barely defrayed the expenses.

Under the impulse of Superintendent Spencer's subscription for twelve thousand copies, it was now removed to Albany, enlarged into a monthly quarto ($9 \times 13\frac{1}{2}$) of eight pages, and published at fifty cents a year.

The editor and founder of the *Journal*, Francis Dwight, universally respected and lamented, died December 15, 1845. Mr. Randall became sole editor, and announced in the February number that as the superintendent had ordered the subscriptions to districts continued he should rely for compensation wholly upon the subscription list outside the State appropriation, which was reduced in February from \$2,800 to \$2,400.

With Volume XII., *The District School Journal* united with *The New York Journal of Education* under the title of *The District School Journal of Education of the State of New York*; and W. F. Phelps and Joseph McKeen were joined with Mr. Randall as associate editors. But though Superintendent Morgan, in his annual report, recommended the periodical as an indispensable auxiliary to the department in the transmission and communication of educational information, and in the dissemination of educational news generally, and even urged an increase in the appropriation, the Legislature refused to heed him, and the *Journal* ceased with the number for April, 1852.

“THE SCHOOL BULLETIN,” 1874.

It was New York's last attempt at an official publication. *The School Bulletin*, which purchased *The Educational Journal*, and has since been known as *The School Bulletin and New York State Educational Journal*, has been from the first owned and controlled by its present editor, and has never asked or been offered official recognition. The first number of *The School Bulletin* was published in Syracuse in September, 1874. It consisted of eight pages, $9\frac{1}{2} \times 14$ inches. After its union with *The Educational Journal* it appeared in April, 1875, with sixteen pages, but has not since been changed in form or size or management or ownership.

EDUCATIONAL JOURNALISM IN OHIO.

BY SAMUEL FINDLEY.

[THE complete paper of which this is an abstract was published in *The Ohio Educational Monthly*.]

The first educational periodical in the State of which I find any mention was called *The Academic Pioneer*. Its first number appeared in July, 1831. It expired after two or three issues, for want of patronage.

In the decade following, there appeared half a dozen or more similar journals, only one of which lived beyond the year of its birth. *The Common School Advocate*, started at Cincinnati in 1837, was kept alive for four years. *The Ohio Common School Director*, started the same year under authority of the General Assembly, expired at the end of its first year. *The Pestalozzian* appeared and died at Akron in 1838.

Other ephemerides of that period were *The Schoolmaster and Academic Journal*, Oxford, 1834; *The Universal Educator*, Cincinnati, 1837; *The Western Academician*, Cincinnati, 1837; and *The Educational Disseminator*, Cincinnati, 1838.

In 1846 three vigorous journals were started in the State, *The Ohio School Journal*; *The School Friend*; and *The Free School Clarion*. The latter was discontinued in 1849 or 1850, the two others in 1851.

The Western School Journal, begun in 1847, was discontinued in 1849. *The Ohio Teacher* was started in 1850, and departed in silence, with none to record the date of its departure. *The American Educationist and Western School Journal* was started in 1852, and lived one year.

The Association continued the publication of the *Journal* for eight years. The first four volumes were edited by Dr. Lord; the fifth by Rev. Anson Smyth; the sixth by John D. Caldwell; and the seventh and eight by Wm. T. Coggeshall. After this the *Journal* was transferred to private parties. Rev. Anson Smyth, then State Commissioner of Common Schools, became the editor, and the name was changed to its present title, *The Ohio Educational Monthly*.

In May, 1861, Dr. E. E. White and Hon. Anson Smyth became joint editors and proprietors, and in 1863 Dr. White became sole editor and proprietor.

In September, 1875, the magazine was sold to Dr. W. D. Henkle, who transferred it from Columbus to Salem, Ohio. He continued its publication until his death in 1881. In February, 1882, it was sold to the writer, then superintendent of the city schools of Akron, Ohio. The further story of the dear old *Journal* in these last years, I leave to be told by those who come after.

Educational Notes and Queries, started by Dr. Henkle, about the

time he took hold of the *Monthly*, was discontinued at the death of its founder.

The National Normal, started in 1868, under the editorial management of R. H. Holbrook (of Lebanon), was merged with the *Monthly* in 1874, revived again 1883 under the name of *The Normal Exponent*, and continued until 1893.

The Guernsey Teacher was started at Cambridge in 1880, by Dr. John McBurney. Its name was subsequently changed to *The Eastern Ohio Teacher*, and still later to *The Ohio Teacher*, under which name it is still published under its original founder. Its avowed object has been to help the younger and less experienced teacher, and especially those engaged in the country schools.

The Public School Journal was started at Cincinnati in 1876, as a grangers' and teachers' paper. In 1880 it became purely educational, and assumed the name under which it is still published, *The Public School Journal*. It is now owned and edited by one of its founders, F. E. Wilson.

The School Visitor, devoted to practical mathematics, examination work, notes, queries and answers, now in its fourteenth year, is edited and published by John S. Royer, at Versailles, Ohio.

The Journal of Pedagogy, a monthly journal, was started at Athens, Ohio, in 1887, edited by Dr. J. P. Gordy. It is now issued quarterly from Dunkirk, N. Y.

The Progressive School, an educational weekly, was started at Alliance, Ohio, in January, 1891, by B. F. Yanney, then a professor in Mount Union College. It is now published by the School Publishing Company, of Alliance, and edited by B. F. Yanney, being issued forty times in the year. In February, 1893, *The Western Reserve School Journal*, a monthly paper published for a short time at Geneva, Ohio, by J. P. Treat, was merged with *The Progressive School*.

There has been no attempt to enumerate in this brief sketch the multitude of school and college papers, past and present, devoted to local educational interests; and it is not improbable that some worthy publications, which should have had a place, have been overlooked through ignorance or inadvertence. I have omitted none such intentionally, and I have set nothing down in malice.

EDUCATIONAL JOURNALISM IN INDIANA.

BY GEORGE F. BASS, INDIANAPOLIS, IND.

NEARLY fifty years ago (in 1846), an Indianapolis man by the name of West, started a little paper which he called *The Common School Advocate*. This was the first attempt, so far as we have been able to learn, to publish an educational paper in Indiana. Only one number was published.

In 1852 an Ohio man came to Indianapolis and started *The Educationist*. Only three numbers of this were published.

There was another journal in these early years that had a longer life than either of these. The only account of the paper that we saw is in Vol. IV. of *The Indiana School Journal*.

In 1854, at the first meeting of the Indiana State Teachers' Association, the desirability and practicability of starting and sustaining an educational journal was discussed. At the second meeting it was decided to publish an educational journal, similar in size and typographical execution to *The Ohio Journal of Education*. The paper was named *The Indiana School Journal*, and George B. Stone, then superintendent of the Indianapolis schools, was appointed resident editor. He was assisted by nine editors, who did the editorial work for the honor there was in it. This was the beginning of *The Indiana School Journal*, that is still in existence, but not owned and published by the State Association for the good of the cause. It has now the largest circulation of any educational publication in the State, and there are only two older educational publications in the United States—*The Ohio Educational Monthly*, and *The Pennsylvania School Journal*.

In looking through the volumes of this paper we find, in the earlier volumes especially, that the information side is made most emphatic. Even in the professional articles this is true. There is not so much on the philosophy of teaching as we find in the best journals of to-day. There was almost no attempt to view a subject as related to the child. The point was to give child information and have him "git a plenty while he was gittin'," as the "Hoosier schoolmaster" puts it.

After two years and a half Mr. Stone resigned, and Mr. Henkle took his place as editor of the *Journal*. This was about the middle of 1858.

In August, 1859, Mr. Henkle left the State, and Mr. Phelps took his place. In December, 1859, the Association transferred the management of the *Journal* to Mr. Phelps, allowing him to make all he could out of it. The Association remained a kind of guardian for it, but did not agree to foot bills. It, however, agreed to give the same spiritual support as before.

In 1862 Mr. Phelps transferred the *Journal* to Mr. George W. Hoss. The circulation had dropped to only one hundred and fifty paying subscribers on account of Mr. Phelps' illness. Mr. Hoss put a great deal of vigor into the work, and in 1869 took in W. A. Bell, its present editor and publisher, as an equal partner. The circulation at this time was about eleven hundred. In July of 1871, Mr. Hoss, having been elected President of the State Normal School of Kansas, sold his interest to Mr. Bell. It has increased in circulation and influence from that time to the present. Its circulation has not fallen below six thousand in the last ten years, and has at times reached eight thousand.

Mr. Bell is now the sole owner and publisher of this paper. He employs several department editors. In 1875 A. C. Shortridge and Geo. P. Brown became associate editors of the *Journal*, but they remained in connection with it only a short time. From the first issue of this paper it has been a power in the educational work of the State. It has always been progressive and sometimes aggressive. It has always seconded every effort to attain higher ideals, and often has led. While some of us, at times, have thought that it was not quite vigorous enough, we shall all agree that it has faced the right way and is moving.

Many other educational papers with good motives have sprung up in this State from time to time, but most of them have suspended or been swallowed up by the *Journal* or some foreign paper.

Among them are the following :

The Indiana Teacher, published at Indianapolis, made its first issue in January of 1869. It was united with *The Indiana School Journal* in July, 1869, when Mr. Bell became half owner. This paper was published by Messrs. Bell, Brown, and Shortridge.

In January, 1873, Mr. A. C. Shortridge and Mr. Geo. P. Brown issued the first number of a monthly paper called *The Educationist*. It was continued till December, 1874, when it was united with the *Journal*, and its editors became associate editors of the *Journal*.

The Northern Indiana Teacher was a paper issued from South Bend in 1874. It was ably edited by Mr. H. A. Ford.

The Education Weekly was conducted by Mr. J. Olcott for a year or two, when some Eastern paper bought it. The field was not rich enough to sustain a weekly paper. This was a bright little paper and had a fair subscription list.

There are at present several papers published, but most of them, if not all, are published in the interest of private normal schools, or by the county superintendents in the interest of their own counties. One of the largest of these is a semi-professional paper called *The Student*, and published at Valparaiso.

SCHOOL JOURNALISM IN MICHIGAN.

BY PROFESSOR HENRY A. FORD, DETROIT, MICHIGAN.

IN school journalism, as in some other features of a right school system, Michigan came early to the front. In March, 1838, when Michigan had been a State hardly more than a year, the Hon. John D. Pierce, who is reputed to have been the first State Superintendent of Public Instruction in this country, so designated, started in Detroit *The Journal of Education*. How remote this is in the history of American schools may be judged from the occupation of the first number almost exclusively by Dr.

Stowe's Report on Elementary Public Instruction in France. It preceded by eight months the beginnings of Horace Mann's renowned *Common School Journal*. In November, 1838, Mr. F. W. Shearman, afterward also Superintendent of Public Instruction, became associate editor, and the remaining numbers were issued from Marshall, long the home of "Father Pierce." The magazine ceased to exist at the end of its second annual volume.

For thirteen years, from 1840, the State had no school organ. At the fall meeting of the State Teachers' Association at Kalamazoo, in 1853, a paper was read by Professor J. M. Gregory, afterward State Superintendent, which resulted in the issue at Detroit, the following January, of *The Michigan Journal of Education*. With Dr. Gregory were associated as editors the Rev. Dr. E. O. Haven, then a professor and afterward president of the State University, and Alexander Winchell, the distinguished geologist of that institution. The editorial management suffered kaleidoscopic changes; during one year each number, by systematic arrangement, having a different (perhaps sometimes indifferent) editor. Dr. Gregory remained in general charge of it until 1860, when it fell into the hands of Duane Doty, subsequently superintendent of schools in Detroit, and it was suspended in September of that year.

In January, 1866, *The Michigan Teacher*, another monthly, was begun at Niles, by W. H. Payne, now Chancellor of the University of Tennessee, and a well-known author and translator, with C. L. Whitney and John Goodison, who both became professors at the State Normal School. With them were afterward associated Professor H. L. Wayland, then of Kalamazoo College, and now editor of *The National Baptist*, Philadelphia, and H. A. Ford, of Niles, who became sole proprietor and editor at the close of 1870, and maintained the magazine until the close of 1876, when it merged into the new *Educational Weekly*, of Chicago. *The Teacher* was carefully edited, and won many commendations from public and private sources.

During part of its life some of the county superintendents of schools issued small but vigorous and useful organs of their work; and another magazine, beginning in 1872, and entitled *The School*, was conducted, to good purpose, by professors of the State Normal Institution.

The Michigan School Moderator is now the representative of the State Department, and generally of the educational interests of the Commonwealth. It was founded at Grand Rapids in 1880, by N. H. Walbridge, with whom in 1884 was joined Henry R. Pattengill, at present State Superintendent of Public Instruction, who became sole owner and editor the next year, and in September removed the paper (a semi-monthly quarto) to the State capital, where it has since been published. Under Mr. Pattengill's popular and energetic management its circulation has been pushed to nearly five thousand.

The School Commissioner, at Saginaw, is a monthly magazine issued largely for the class of county educational officers thus entitled.

A small magazine, *The Investigator*, is also printed at Grand Rapids, in the kindergarten interest.

Several of the commercial and other colleges of the State have their periodical organs, and during the last academic year a daily paper of this kind has been published at the University. Taken for all in all, printer's ink has been well used for the uplift of education in the Wolverine State for more than fifty-five years.

EDUCATIONAL JOURNALS IN ILLINOIS.

BY JOHN W. COOK, PRESIDENT NORMAL UNIVERSITY, NORMAL, ILL.

INFORMATION respecting the beginnings of school journalism in Illinois is not easily attainable. From a sketch by Dr. Samuel Willard, published in the Report of the State Superintendent of Public Instruction, 1883-84, I learn that *The Common School Advocate* was started at Jacksonville, under the editorship of Rev. Theron Baldwin, in 1837. This journal was short-lived. In 1841 E. R. Riley, of Springfield, issued *The Illinois Common School Advocate*, but this effort, like that of its predecessor, was in advance of its time. Only five or six numbers were issued. From this time until 1865 there was no publication that was distinctively educational.

"THE PRAIRIE FARMER."

From an admirable article in the Report of the Superintendent of Public Instruction, 1885-86, prepared by that accurate and reliable gentleman, Mr. W. L. Pillsbury, I quote the following: "Mr. Wright was not a farmer, and had never lived on a farm, and yet he made *The Prairie Farmer* at least as good an agricultural paper as was published in this country; and without being a teacher even, he made *The Prairie Farmer* also a most excellent school journal, all the more effective because it reached the patrons of the schools more than the teachers. From the start, in 1841, until the publication of *The Illinois Teacher* was begun in 1855, this paper occupied the field of school journalism in Illinois. The school history of this period must be largely written from its pages."

It is my impression from what I have been able to learn of the work done by Mr. John S. Wright in *The Prairie Farmer*, that no educational journal has done or could do what he accomplished. There was no free-school system in existence within the borders of this immense domain. It was in a peculiar sense a time when the people had to be reached at their firesides. The State was poor. The rash experiment of trying to coax prosperity within our borders by a vast and unwise system of public im-

provements had demonstrated its own folly. Anything looking toward an enterprise that called for public taxation was destined to meet the warm opposition of the people. But Mr. Wright's paper was read and re-read in the farmhouses that were scattered over the prairies, along the water-courses, and in the native groves of the State. In every issue he pressed upon the people the crying need of a system of popular education maintained at public expense, that should give to every child the rudiments of an education. He issued calls for educational conventions and urged the people to attend them. When they were convened he was a leading spirit in urging the scheme that seemed nearest to his heart. When the conventions had completed their work he reported their proceedings, and persistently labored to create a public sentiment favorable to the establishment of a great free school system. Any account of the movement that ended in the act of 1855, which should fail to recognize Mr. Wright and his *Prairie Farmer* as potent factors in that great consummation would be very imperfect.

This journal is clearly entitled to the honor of being the earliest of the educational periodicals of the State that have been of any value in influencing legislation and determining public sentiment. I have alluded to it as an educational journal. To this name it is justly entitled, although its editor would have been the last person to make any claims for so questionable a distinction.

"THE ILLINOIS TEACHER."

In 1854 the newly-organized State Teachers' Association held its first meeting at Peoria. The question of an organ came up, and the decision to publish a monthly started *The Illinois Teacher* on a career that was destined to continue for more than eighteen years. Daniel Wilkins, now a resident of Chicago, and W. H. H. Army, afterwards memorable in the Southwest, were the local and managing editors. The main editorial work, however, was to be done by twelve gentlemen who were to mount the tripod in succession for the first twelve months.

The monthly editor scheme proved a dismal failure, and the enterprise seemed destined to perish before it had cut its milk teeth. At this juncture Charles E. Hovey, who had come West to seek his fortune, came to the front and assumed the whole burden. He was tireless, full of resources, and possessed pluck to the backbone. He threw himself into the fight for a normal school, the desirability of which had been discussed for years by the friends of popular education.

The normal school idea was kept prominently before his readers; the educational public was not permitted to forget that the normal school was a necessity. The passage of the act establishing the institution in 1857 was due in large part to the influence of *The Illinois Teacher*. Hovey's prominence is attested by the fact that he became the first principal of

the school, remained for four years and until it had passed the danger-point, and then went off to win the stars of a major-general in the Union army. He acted as editor for two years. By his untiring energy he succeeded in raising the subscription list to fifteen hundred the first year, and to something more than two thousand the second. But he had the building of the new normal school on his hands, and was obliged to give up his editorial work. Dr. Bateman succeeded him in 1858.

When the State Association met in December, 1858, there was a disposition on the part of several of the leading members to free the organization from all responsibility for the further support of the paper. The contest was a memorable one. A report of the discussion covers several pages of the printed proceedings. The measure at last carried. A few responsible men, among whom were Hovey, Hewitt, Bateman, and a dozen more of their sort, met and chose Charles A. Dupee editor, and Hewitt mathematical editor, pledged twenty-five dollars each to meet current expenses, and started the *Teacher* on another year. It made its monthly visits to its subscribers and came up smiling at the end of the year. Its vitality was marvellous. When disaster seemed impending, its friends rallied about it and kept it on the move.

In 1860, Dr. Willard, who was then employed as a teacher in the normal school, assumed editorial control. He continued through 1861. Alexander M. Gow followed him in '62 and '63. S. A. Briggs, who had been Gow's assistant, served during '64; Richard Edwards, in '65 and '66; Wm. M. Baker, in '67, '68, and '69. In 1870, S. H. White, who had been serving as assistant for five years, accepted the editorship, and continued for two years. E. W. Coy was his assistant. In accordance with the most approved system of civil service, Coy succeeded to the editor's chair in '72. At the close of the year the *Teacher* was sold to Gove and Hewett, and was merged in *The Illinois Schoolmaster*.

One of the leading functions of this pioneer school journal was the training of the editors. Counting the twelve monthly editors who served the first year, there were twenty-two in the aggregate. There were in addition to this list several assistants that have not been enumerated. Among these were James H. Blodgett; Professors Stetson and Pillsbury, of the normal school; and Professor Standish, of Galesburg.

"THE SCHOOLMASTER."

Some time in the year 1866, E. D. Harris, of Normal, Illinois, started a small paper with an educational bias, which he called *The Normal Index*. Some two years later, Mr. John Hull, then superintendent of schools in the county of McLean, purchased the paper, changed its name to *The Schoolmaster*, enlarged and otherwise improved it, and pushed it into public notice. Professor Albert Stetson, of the State Normal School, was

associated with Mr. Hull in the editorial management. In May, 1870, Mr. I. S. Baker, principal of the Skinner School, Chicago, joined forces with Professor Stetson in the control of the paper, and its influence began to grow in a very tangible way. In July of the same year, it was thought expedient to remove the place of publication from Bloomington to Chicago, and its name was changed to *The Chicago Schoolmaster*. In May, 1871, Mr. Hull sold *The Schoolmaster* to Mr. Aaron Gove, of Normal, who was soon joined by Professor Edwin C. Hewett of the State Normal School. Mr. Gove took general charge of the paper. In February, 1873, these gentlemen purchased *The Illinois Teacher*, consolidated it with *The Chicago Schoolmaster*, and changed the name to *The Illinois Schoolmaster*. In 1874, Mr. Gove sold his interest in the paper to Mr. John W. Cook; Professor Hewett continuing to retain an interest, although not actively engaged in its management. In January, 1876, *The Illinois Schoolmaster* and several other magazines in the Northwest were purchased by S. R. Winchell and Company and united in *The Educational Weekly*. The career of this paper was comparatively brief. The West seemed hardly ready for so radical a change in educational journalism. In the more populous East a weekly had made a place for itself, and it had already found generous patronage in the Northwest.

While *The Schoolmaster* had no hobby it printed a good deal of valuable matter. Its contributors were among the leaders of educational thought in the State. Dr. J. A. Sewall, of the State Normal School, was a frequent contributor back in the early seventies. Dr. E. C. Hewett, Dr. H. H. Belfield, E. C. Smith, familiarly known as "Smith of Dixon," Alfred Kirk, O. Blackman, and the gifted and lamented Jeremiah Mahoney did far more than any others during the editorial management of Mr. I. S. Baker. The versatile Jonathan Piper came across the line from Iowa about that time and introduced himself to the Illinois pedagogues by some spicy extracts from his notebook of observations. Aaron Gove occupied the humble position of editor for the Illinois Normal Department, all unconscious of the dignities that were soon to devolve upon him as editor in chief.

In May, 1871, Baker retired from the editorial management. While he was by no means a brilliant editor, he was helpful and thoroughly in earnest. Unlike his predecessor, he was engaged in public school work. In the management of a large city school he was constantly in the presence of the problems that confronted his readers. He treated them from the practical rather than the theoretical standpoint. When Mr. Gove took charge he found a respectable subscription list, a fair reputation, and almost a free field.

In 1871, Mr. Gove began the publication of a series of language lessons. They seem to have been a new departure in the matter of language teaching, and attracted no little attention. They were in a way

the forerunners of that large crop of Introductions to Grammars that soon crowded the markets. Their author was W. B. Powell, at that time superintendent of schools in one of the smaller cities of Illinois. Jeremiah Mahoney continued to contribute his brilliant and original articles. Among the occasional contributors were Dr. J. M. Gregory, O. S. Westcott, George Howland, "Father" Root, of "Egypt," E. A. Gastman, J. H. Blodgett, J. L. Pickard, Hon. Newton Bateman, Professor S. A. Forbes, President Richard Edwards, Henry L. Boltwood, and Dr. Samuel Willard. Mary Allen West made her bow as a writer of short educational stories. Her name was destined to become a household word in the Northwest, on account of her devotion to the temperance cause. She died in far-away Japan, and lies in the quiet cemetery at Galesburg, where her loving pupils laid her with grateful benedictions.

In 1874, Mr. Gove was called to the superintendency of the Denver schools, and was succeeded in the editorial management of the paper by the present writer. There was little change in its policy or general character. As I look over the numbers that were prepared in the midst of the pressing duties of a very busy life, I am impressed with the fact that we were only playing at school journalism. Little was lost when *The Illinois Schoolmaster* was merged in *The Educational Weekly*. And the cause of popular education did not go to the wall when that ambitious effort ended in financial disaster. Civilization seems destined to survive the decay of some of its most conspicuous pillars.

Excellent financial support was given to *The Schoolmaster* during the time that it became the duty of Dr. Hewett and myself to look the printer in the face. I am sure we received ample compensation for all the work that we put upon it. And the book publishers—those generous gentlemen that made their benefactions under the pleasing guise of business—and made educational journalism possible, I wonder if they ever got back cents where they put in dollars.

"THE ILLINOIS SCHOOL JOURNAL."

Late in the seventies—exactly when, the writer is unable to learn—a certain gentleman of Napoleonic qualities conceived the notion that it was quite possible to cover the whole field of American school journalism by a very simple and economical arrangement. If we are a Nation with a big "N," why should not the same matter answer for one State as well as for another? Full of this idea, this ingenious gentleman cast about him for the necessary talent to furnish the local coloring. He was very fortunate in his choice for Illinois. There was a young man of good parts who was working on a small salary as principal of a grammar school in one of our State normal schools. He was promptly engaged as local editor.

Before many moons he became disgusted with the management of the

new venture, which had received the modest title of *The New Gleaner*. He bought out the Illinois edition, and a new school paper, *The Illinois School Journal*, was launched on the perilous sea of journalism. The first number appeared in May, 1881.

The first number was highly promising. It was nearly double the size of *The Schoolmaster*, was filled with practical material all ready to be served, it had discarded a considerable part of the news notion, and showed a page of wide-awake editorial matter that looked like business. The new editors were Dr. Edmund J. James, and Charles De Garmo. The later prominence of the gentlemen warrants the statement that here was a strong combination. The *Journal*, to use a phrase that some of my hearers may not understand, had "the pole" at the start. There was much of the dash and wit of the "Jerry Mahoney" articles. Evidently these editors were not afraid.

The admirable training of Dr. James in the pedagogical courses of German universities gave a dignity and character to whatever he chose to write upon educational subjects, that at once began to attract attention. It was a new era in school journalism. The old contributors began to reappear. There was a happy combination of philosophy and helpful simplicity. Dr. James was profound, and Mr. De Garmo was ingenious and inventive in the line of schoolroom devices.

During the winter Congress was discussing the question of national aid to education. The *Journal* engaged in this discussion with great spirit and ability, and formulated one of the plans that received the respectful attention of that eminent body. Members of the General Assembly of Illinois seemed not altogether unwilling to be informed of their duties in the line of popular education, by a school journal that insisted upon being heard. A somewhat careful examination of the numbers issued by these gentlemen convinces me that we did not fully appreciate them.

In 1883 Dr. De Garmo left for Germany, to enter upon his university course, and the present writer again found himself engaged in school journalism. Dr. De Garmo had just arranged with William Hawley Smith for the production of a serial story with an educational motive. Two or three numbers had appeared before I succeeded to the editorial management. I soon discovered that the plan met with the favor of the educational public. "The Evolution of Dodd" was no less a business than a literary success. The circulation of the paper increased with great rapidity, and the call for the back numbers containing the story betrayed the reason. It became very apparent that the teacher is not averse to a highly practical system of pedagogics, if it has the concrete setting which Mr. Smith has so happily illustrated in his charming little book. There is a highly valuable suggestion in the success of "The Evolution of Dodd." The school journal that can work it out will not lack for readers.

After a year of oppressive labor I was joined by Mr. R. R. Reeder in the management of the *Journal*. Little is to be said of our success. Financially it was unequivocal. Educationally I regard it as a failure. It was the work of hours that should have been devoted to rest.

In November, 1886, the magazine was purchased by Mr. George P. Brown, and the name was soon changed to *The Public School Journal*. Few school journals are better known. It is unique, in that a singleness of purpose has characterized it from the first number—the grounding of all teaching in a rational philosophy of education.

“THE CHICAGO TEACHER.”

This journal was only an episode in the history of educational journalism. It merits this characterization because of its brief career. Allusion has been made to the brilliant and lamented Jeremiah Mahoney. In company with Ira S. Baker he started the *Teacher* in 1873. It was destined to have a short history. The reputation of Mr. Mahoney and the business tact of Mr. Baker soon put it upon an excellent financial footing. Editorially it was original, somewhat meteoric, but extremely captivating in its general character.

“OUR COUNTRY AND VILLAGE SCHOOLS.”

In the early eighties it began to be whispered about the State that one John Trainer, county superintendent of schools in Macon County, had achieved a remarkable success in the management of the schools under his charge. Mr. Trainer was a man of remarkable ingenuity, and possessed the extremely happy faculty of interesting the public in his work. He is entitled to whatever of honor attaches to the introduction of what is known in Illinois as “the graded course for country schools.” To exploit Mr. Trainer’s “find,” and to gather in certain pecuniary advantages that were conceived to attach thereto, Charles I. Pownier started *Our Country and Village Schools*. The idea was practical and attractive. The paper sprang into a prominence beyond its merit, and promised abundant success. But Mr. Pownier’s business methods soon wrecked the enterprise, and it joined the melancholy shades of defunct school journals, respectable at least in numbers.

The purpose of this paper is to deal with the past, or with such papers now current as had their beginnings in a somewhat remote past.

Intelligence, of Chicago, now in its thirteenth volume, Mr. E. O. Vaile, editor, in a certain way was an offshoot of *The Educational Weekly*, with which the accomplished editor of the *Intelligence* had a brief connection.

EDUCATIONAL JOURNALISM IN IOWA.

BY HENRY SABIN, STATE SUPERINTENDENT OF PUBLIC INSTRUCTION OF IOWA.

In January, 1853, *The District School Journal of Education* was issued at Dubuque under the care of A. P. Wood, S. R. Gilbert acting as editor. At the end of the first year the name was changed to *The Iowa Journal of Education*.

From 1854 to 1857 there was no educational journal in the State.

In the latter part of the year 1857 J. L. Enos commenced the publication of *The Educational Voice* at Cedar Rapids. Mr. Enos was one of the strongest educational men Iowa has ever produced. The journal was conducted with great vigor. Its articles were varied, and touched upon all the wants of the community. The *Voice* boasted at one time a thousand paying subscribers. It is uncertain what became of it. Iowa has had no journal since its day of greater, and but few of equal, merit.

In May, 1859, Rev. S. S. Howe, principal of the academy at Mt. Pleasant, commenced the publication of *The Literary Advertiser and Public School Advocate*. It was discontinued in 1860.

The same year (1859) Mills Brothers, of Des Moines, commenced the publication of *The Iowa School Journal* under the editorial care of A. J. Stevens.

In October, 1859, *The Iowa Instructor* was issued under the control of the State Teachers' Association at Tipton, C. C. Nestlerode being the responsible editor. The *Instructor* runs through three volumes. The ablest men in the State contributed to its columns, among them Fellows, Thomas H. Benton, Jr., Prof. N. R. Leonard, Ingalls, Nestlerode, F. M. Witter, J. D. Hornby, Kissell, Miss P. W. Sudlow, and many others who are well known in the educational history of the State.

It is to the influence of the educational journals published prior to 1865 that Iowa owes much of whatever prestige she enjoys now in the educational ranks of the nation.

In 1862 the *Instructor* and the *School Journal* were combined and published by Mills & Co., at Des Moines, under the name of *The Instructor and School Journal*.

The first number of *The Iowa School Journal* appeared at Des Moines, July, 1859. From July, 1860, to January, 1861, the *Journal* was in a state of suspended animation. Vol. II. begins with the latter date under the editorship of Thomas H. Benton, Jr., an able writer, under whose supervision the *Journal* at once became influential in the State. In 1864-67 we find the names of various teachers on the editorial page, evidently a committee chosen by the State Association. It is impossible to follow the

Journal through each year. The keen vigorous utterances of Kissel, the terse epigrammatic sentences of Jonathan Piper, the wise logical reasoning of D. Franklin Wells, grace its pages and make them profitable reading to the student of the educational history of Iowa.

In August, 1871, *The Manual* was commenced at Keokuk under the supervision of C. M. Greene, of Keokuk, and O. R. Burchard, of Fredonia, N. Y. It did not continue long. In January, 1872, it was combined with *The Iowa School Journal*, and continued until 1875.

In January, 1873, W. E. Crosby, of Davenport, commenced the publication of *The Common School*, and in 1875 he bought the *Journal*. The last number which we are able to find is April, 1877. We think, however, it was issued some time after that. With it disappeared the last vestige of *The Iowa School Journal*.

In 1877 a resolution passed at a meeting of Normal Institute instructors resulted in the establishment of *The Normal Monthly*. The first number was issued in August of that year at Dubuque, with Principal W. J. Shoup as editor and proprietor. It was designed to be an Iowa journal devoted almost entirely to State interests. *The Normal Monthly* was ably conducted and was very popular in the State. Mr. Shoup was absolutely fearless as an editor, and did not hesitate to express his opinions on the educational vagaries of that day. He edited his own journal in every sense of the word. Ill-health forced him to retire, and in April, 1884, he sold the *Monthly*.

Of the other journals at present published in Iowa, little need be said. *The Central School Journal*, published at Keokuk, is now in its fifteenth volume. The first number was issued in December, 1877, with J. W. Howley editor-in-chief. Miss Lydia G. Howell was editor from 1883 to 1886, at which time Professor George Edward Marshall, of the Keokuk high school, became editor, and remained so till 1889. The *Journal* is now owned by Superintendent O. W. Weyer and Principal Charles H. Wolf, of the Keokuk schools. *The Central School Journal* has always been characterized as a progressive journal, fully up with the demands of the times.

The Iowa Teacher is published at Charles City. This paper furnishes the larger part of the printed matter for many country papers, leaving them a page or two for home matters.

In 1886 *The Iowa School Journal* was established at Des Moines. It is now known as *Iowa Schools*. *The Northwestern Journal of Education* flourished for a time as a weekly journal. Although it had the best editorial ability in the person of one of the ablest female writers of Iowa, it did not pay expenses, and came to an untimely end.

So much for the past of educational journalism in Iowa. It is impossible to forecast the future. With four journals, each clamorous for support, with the great influx of journals from outside the State, it does not seem possible to put any journal on a paying basis.

THE EDUCATIONAL PAPERS OF MISSOURI.

BY H. A. GASS, JEFFERSON CITY, MO.

THE first educational paper published west of the Mississippi River was *The Missouri Journal of Education*. It was established by the Missouri State Teachers' Association, and was the official organ of that body. By act of the association, Mr. E. K. Woodward, of St. Louis, was made the publisher, and Hon. Ira Divoll, superintendent of the St. Louis public schools, local editor, and W. S. Baker, traveling agent. The first and only number was published in July, 1857.

In May, 1858, Mr. Thomas J. Henderson began the publication of *The Missouri Educator*. This was continued until July, 1860, as the official organ of the State Teachers' Association, and was the second effort of that body to establish a school paper for the State. Henderson was its editor, J. L. Tracy, Arrow Rock; W. L. Luckey, Fayette; J. W. Sutherland, Boonville; Dr. S. S. Laws, Fulton; Richard Edwards, St. Louis; James Love, Liberty; W. H. Lewis, Independence, were the associate editors. The paper was of a high order. The editorials and contributed articles were strong. Advanced ground was taken on the subject of normal schools, teachers' institutes, and other questions of importance to the educational public.

The Missouri Teacher was founded by Prof. J. U. Barnard, at Kirksville, Mo. The first number was issued in January, 1880. The publication of this paper was continued by Prof. Barnard for nearly three years, when he sold it to other parties who changed its general character and after a few months suspended its publication. *The Missouri Teacher* was a good paper, and did its full share towards helping the educational growth of the State.

The Missouri School Journal was founded by Professors W. T. Carrington and J. L. Holloway, at Jefferson City, Mo. The initial number was published October 1, 1883. In December, 1887, Howard A. Gass, the present owner, purchased it, and January 1, 1888, changed it from a semi-monthly to a monthly. In January, 1891, it was changed to magazine form which it still retains. The *Journal* has grown steadily from its inception until it is now recognized as the leading educational paper of the State.

The American Journal of Education was established in February, 1868, and is now in its twenty-fifth year. It is edited by its founder, Major J. B. Merwin. It was largely instrumental in raising the wages in Missouri more than nineteen dollars per month. Its advocacy of a liberal policy toward the schools has made the paper and its genial editor thousands of friends in all parts of the country.

School and Home was established March 20, 1884, by Mr. William L. Thomas, who still owns and edits it. It is published semi-monthly at St. Louis, Mo.

The Missouri Teacher is a new educational monthly established by Professors Smith and Scotten at Sedalia, Mo. The first number was published September 15, 1892. Only ten numbers of Vol. I. have as yet been sent out.

EDUCATIONAL JOURNALISM IN UTAH, COLORADO AND KANSAS.

BY JOHN MACDONALD, EDITOR OF "THE WESTERN SCHOOL JOURNAL,"
TOPEKA, KAN.

UTAH.

IN Utah, educational journalism is still in its infancy. *The Inter-Mountain Practical Educator* is the only representative educational paper in the Territory. The *Educator* first made its appearance in April, 1891. Its editors and publishers were J. W. Newbern, G. W. McKay, and J. C. Wolfe, teachers in the Salt Lake City schools. In May, Messrs. McKay and Wolfe retired, and Mr. Newbern took entire charge of the paper. In January, 1892, W. A. Corey bought a half interest in the *Educator*, and a few months later, bought the other half. The word "Practical" in the title was dropped, and the name is now *Inter-Mountain Educator*. Mr. Corey is still editor and publisher. The *Educator* is the organ of the Territorial Commissioner, and of the county superintendents of Utah. It is growing in favor and in circulation, has done and is doing much good in advocating needed changes in school laws and school work, and in faithfully representing and defending the interests of all the teachers in that vast tract of country known as the "Basin Region."

COLORADO.

The first educational periodical in Colorado, *The Colorado School Journal*, made its appearance in April, 1885. It was established by Superintendent Aaron Gove, of Denver, and Mr. J. D. Dillenback. Mr. Gove has continued to edit the *Journal* since 1885, and Mr. Dillenback continued to be the publisher until 1890. At that time J. S. Temple bought Mr. Dillenback's interest in the paper, and became the publisher. *The Colorado School Journal* is and has been the organ of the State Superintendent of Public Instruction, also of the State Teachers' Association. The aim of the *Journal* has been to discuss new theories and practices in education, to help especially the young teachers, and to aid in cementing the bond between the common schools and the higher educa-

tional institutions. It also gives full reports of all State educational meetings, gives some space to educational news, and publishes all the opinions of the State Superintendent on questions of school law.

KANSAS.

The first educational paper published in Kansas was the child of the Kansas State Teachers' Association, and was called *The Kansas Educational Journal*. The Association was organized in September, 1863, and it was resolved to establish, as soon as possible, an organ to represent the teachers of the State. The Association assumed sole control of the young periodical, elected its editors, and made annual and sometimes desperate efforts to meet the deficit, which appeared with distressing regularity. Superintendent H. D. McCarty was the first editor of the journal, and remained in charge until 1867.

In 1867 L. B. Kellogg and H. B. Norton were elected editors, and continued in control until 1870, when Superintendent Banfield of Topeka and Professor Dilworth of Emporia were elected. The panic of 1873 came; then the plagues of Egypt, the grasshoppers, the chinch-bugs, and the drought, descended upon the State, and the *Journal* apparently gave up the ghost—at least it disappeared. *The Kansas Educational Journal* during the ten years of its existence did a vast deal of good in keeping constantly before the people the need of certain amendments to the school law, and in introducing better methods of teaching into the schools.

During the years between 1873 and 1879, educational journalism was well-nigh dead in Kansas, or at least in a state of torpor. Various efforts were made to revive the old *Journal*, but without success. In 1877, it appeared in Emporia as *The Hatchet*, editor Buel T. Davis. In 1879 *The Hatchet* merged into *The Educationalist*. The circulation of these papers was extremely limited, but they served to keep educational journalism alive. In 1880, Dr. Geo. W. Hoss bought *The Educationalist*, changed its name to *Educationist*, made Topeka his headquarters, and continued to publish and to edit the paper until January, 1885. *The Educationist* was a worthy successor to *The Kansas Educational Journal*, but its circulation was still far from satisfactory, and the editor, we suspect, had to live mainly on faith, hope, and oxygen.

In January, 1885, H. C. Speer, then retiring from the State Superintendency, bought *The Educationist* of Dr. Hoss, changed the form of it to a quarto, and the name to *Western School Journal*, which name it still retains.

Mr. Speer greatly increased the circulation, and, for the first time, began to make the paper pay. In May, 1887, Mr. Speer sold the *Journal* to R. W. Turner, late United States Consul to Cadiz, Spain. Under Mr. Turner's management the *Journal* continued to grow in circulation and

in influence. In December, 1888, *The Western School Journal* was purchased by the writer of this paper, and he has during the last four or five years been trying with such strength and grace and faith as he may have to make the paper a representative educational journal in every true and good sense. To what extent he has succeeded, it is not for him to say, and it would be obviously improper for him to discuss the subject in this paper. He can, however, properly say thus much : That the *Journal* has largely increased in circulation during the last few years, and that it is more enthusiastically supported by the teachers of Kansas than any other State educational paper in the Union, with one possible exception.

Educational journalism in Kansas has come to its present position through great tribulation. In its troublous infancy, it was afflicted with all sorts of adversities, educational whooping-cough, strangling croup, and all the other ailments which beset the path of childhood. But in spite of all the child grew and waxed strong, and is now mature and robust enough to make its way in the world without artificial propping. For the educational journal in Kansas is not now, as in the olden time, a mere adjunct to a college professorship or city superintendency. It is to-day, thanks to the teachers who so generously support it, upon a paying foundation.

EDUCATIONAL JOURNALISM IN FRANCE.

ABSTRACT OF A PAPER BY GABRIEL COMPAYRÉ, PRESIDENT OF THE FRENCH
PEDAGOGIC DELEGATION TO THE WORLD'S FAIR.

For the sake of clearness we have classified the educational journals of France as follows :

- (1) Those devoted to the interests of all the schools of the country ;
- (2) Those published particularly for the teachers and pupils of superior and secondary schools ;
- (3) Those pertaining to elementary instruction ;
- (4) Journals for specialists ; and
- (5) The public documents of educational associations, faculties, etc.

FIRST GROUP.

Until 1892 there existed two publications devoted to the interests of the French public schools—the *Bulletin Administratif du Ministère de l'Instruction Publique* and the *Recueil des Lois et Actes de l'Instruction Publique*. The latter, founded in 1847, has been discontinued. The official bulletin of the Minister of Public Instruction appears weekly. That which gives it a pedagogic character are the ministerial instructions intended for the guidance of teachers in their capacity as educators and professors.

SECOND GROUP.

Among the journals addressing themselves particularly to the professors of superior and secondary schools are the following :

La Revue Internationale de l'Enseignement, published by the Society of Superior Instruction. It was founded in 1881, and appears monthly. Edited in a very liberal spirit and above all confessional prejudices. This review is designed to make known the works of French and foreign masters who are interested in the future of the higher studies. It affords an opportunity to follow the pedagogical movement in various countries, and to make very interesting and instructive comparisons. Thus the *International Review* plays the part of a sort of permanent congress where questions of highest import for the advancement of education and instruction are discussed.

La Revue Universitaire has a more practical character than the preceding journals. It aims to be of assistance to teachers of secondary schools, and to be of equal service to the pupils. Teachers as well as pupils find in it interesting and varied articles on education, literature, history, the fine arts, hygiene, etc. Its programme embraces all the subjects taught in the *lycées* and colleges. Besides these general studies this review has a department devoted to the preparation for examinations, and gives a very complete bibliography. It was founded in 1892 and appears monthly.

L'Enseignement Secondaire des Jeunes Filles, conducted by Camille Sée, is specially devoted to questions relating to female education. A happy innovation of recent date is the publication of the best compositions of pupils, with notes and criticisms of teachers. This is an excellent means of keeping up emulation between the various establishments. The journal was founded in 1882 and appears monthly.

Before passing to the journals and reviews devoted to the interests of elementary schools, we may mention the *Revue des Cours et Conférences*, which reproduces public lessons given at the Sorbonne and the College of France. It was founded in 1892 and appears weekly.

THIRD GROUP.

The journals for the use of the teachers of elementary schools form the most numerous group. We mention first a publication which, although belonging to this group, contains articles of a higher quality than those of the school journals proper. This is the *Revue Pédagogique*, whose frame embraces all that pertains to the science of education. Founded in 1878, it has become, since July, 1882, the organ of the Pedagogic Museum. It appears monthly, and is sent free to members of the administrative personnel of elementary instruction, to normal-school principals, and to a certain number of teachers who are known to the administration as

earnest students of pedagogic works. The committee which conducts the review aims to encourage pedagogic study and independent research, and gives space to free and dignified discussions.

Outside of articles on all points touching the interests of education and instruction and studies in the history of pedagogy, the *Revue* publishes each month a review of the press and of books, a record of elementary instruction in France, and notes of foreign countries. Besides, there are literary and scientific reviews. Among the regular contributors are the most authoritative representatives of French pedagogy: Messrs. Gréard, Buisson, Compayré, Marrión, Pécaut, Steeg, etc.

With the *Manuel Général de l'Instruction Primaire* we arrive at the journals which, without neglecting questions relating to methods and what might be called the theory of education, aim to furnish teachers with practical directions and to facilitate their daily tasks. The *Manuel* was founded in 1832 and appears semi-monthly. It lost the official character which it bore at first in 1840. It enjoys a great and well-deserved influence. It was one of the first journals to demand free and obligatory instruction, and has supported all efforts relating to the reorganization of elementary education in France.

The publishers of the *Manuel* issue since October, 1892, a journal of a peculiar nature. This is the *Correspondance Général de l'Instruction Primaire*, a bulletin serving as a free mediator between school authorities, the families, and members of public and private elementary schools. It is sent out twice a month. Its main object is to introduce reforms in the economy, mechanism, or spirit of national instruction.

Next to the *Manuel Général* and *L'Ami de l'Enfance*, of which we shall presently speak, the oldest school journal is the *Journal des Instituteurs*. Founded in 1878, it appears every Sunday. Devoted exclusively to the preparation of classes, it is the first periodical to publish a course of studies in which teachers may find tasks and lessons for every day in the year on all the studies in the programme.

In 1879 a new periodical was published, destined to make a rapid success. We refer to *L'Instruction Primaire*, a journal of practical education for school teachers and principals of kindergartens. Its character is about the same as that of the *Manuel Général*. It comprises two distinct departments, the semi-monthly journal and a supplement. The former is particularly designed for the teacher in the classroom; it furnishes materials for lessons for every day, and facilitates the preparation of pupils for the examinations. The supplement addresses itself particularly to the masters and mistresses, and aims mainly at an extension of their literary and scientific knowledge, and to aid them in the preparation for the attainment of the various diplomas that they may desire to possess.

The monthly *L'Instituteur* was started in 1886 to react against the

utilitarian tendency of the pedagogic press. It aims to elevate the teacher. Accordingly it seeks less to furnish the teachers with ready-made lesson plans than to give them directions as to how to choose the material and how to prepare it. The thought of making moral training more prominent than the ordinary studies inspires the pedagogic articles that take the first place in this journal. *Le Progrès de l'Enseignement Primaire*, a monthly journal founded in 1886, like *L'Instituteur* aims to encourage individual effort and original work. Every number contains a pedagogic discussion, a plan of monthly studies, a review of school journals, and directions for the teaching of manual training. Besides, the *Progrès* publishes each month the biography and portrait of an ancient or modern educationalist.

L'Education Nationale, started in 1887 under the inspiration of Paul Bert, has aimed particularly during the first years of its publication to contribute in the largest possible measure to the moral and civic instruction of teachers and pupils. A liberal and openly republican spirit animates all its articles. Since the 1st of January, 1893, it has undergone a change, and is now almost exclusively devoted to the preparation for the various examinations. It is issued every Sunday.

A certain number of other periodicals do not distinguish themselves by any clearly defined purpose. Their programme, like that of the *Manuel Général* or *L'Instruction Primaire*, is to guide teachers in the preparation of classroom work, to aid them to complete their professional training, and to defend their interests. Among those which occupy a quite honorable place in pedagogic journalism are *Le Journal de l'Enseignement Primaire*, founded in 1879; *La Revue de l'Enseignement Primaire et de l'Enseignement Supérieur*, founded in 1891; *L'Instituteur Pratique*; *L'Echo de l'Enseignement Primaire*, founded in 1892; and the *Volume*. The care with which the latter journal is edited deserves special mention.

The journals enumerated above are devoted mainly to public elementary education, and are edited and read for the greater part by public-school workers. The free schools have also their organs; among them are *L'École Française*, founded in 1889, and *L'Education Chrétienne*, founded in 1892. These publications are devoted to the defense of the Catholic interests.

The educational press numbers few journals systematically opposed to the administration. We can mention but two whose *polemique* does not keep within the limits of courteous discussion. These are the *Réforme Universitaire* and *France Enseignante*.

There are three publications specially devoted to maternal schools (*écoles maternelles*)—the *Ami de l'Enfance*, the *Moniteur du Jeune Age*, and the *École Maternelle et Infantile*. The first mentioned is the oldest of the three. It was founded in 1839 by Mr. Cochin to support the teaching in the *salles d'asile*, which were then being established in France. The *Ami de l'Enfance* has been conducted for some

time by Madame Pape-Carpantier, whose whole life was devoted to the education of little children, and to whom we are indebted for ingenious devices and many excellent books. The present directress of the journal, Madame Kergomard, continues the work of Madame Pape-Carpantier with equal devotion and like success. *Le Moniteur du Jeune Age* addresses itself to all who are interested in the education of young children, to mothers as well as to teachers. This is also the plan of the *École Maternelle et Infantine*. The two last-named journals are in existence for upward of ten years, and are worthy rivals of the *Ami de l'Enfance*.

FOURTH GROUP.

We do not comprise in this group the journals of scientific societies, which, as they address themselves to a very limited public, cannot be considered as forming a part of the school press. But there exist for the use of professors and pupils of the secondary and elementary schools certain special publications which we must mention here.

Instruction in geography, which in recent years has received a lively impulse, is encouraged and strengthened by the *Revue de Géographie* (published since 1877) and the *Annales de Géographie* (since 1892). We might mention also *L'Année Cartographique*, published since 1891.

Teachers of modern languages derive much help from the *Revue de l'Enseignement des Langues Vivantes*, founded in 1884. The pupils of the lycées and colleges have for their use the *Deutsche Zeitung für die französische Jugend*, or the *Journal Allemand-Deutsches Blatt für Franzosen*, published by a coterie of professors; the *English Journal* or the *Journal Anglais: A Magazine for French People*, a journal similar to the German one.

Physical culture, long neglected and to-day occupying quite an honorable place, has also organs, of which we mention the following: *La Gymnastique Française*, the *Moniteur des Exercices Physiques*, the *Education Physique*, and the *Moniteur de la Ligue Girondine de l'Education Physique*, etc.

Lastly, let us call attention, without attempting to give even an incomplete list of them, the journals which have for their object either the diffusion of the "modal" method of teaching music, or the advocacy of a simplified and more rational orthography, or the dissemination among teachers and pupils of a knowledge of shorthand.

FIFTH GROUP.

The bulletins of various faculties are of recent origin. They have the advantage of making known the courses and special lines of work of the professors; of aiding the students in their preparations for examinations, and of encouraging individual efforts.

While the bulletins of faculties address themselves almost exclusively to the members of the teaching corps, the publications of educational societies inform the larger public concerning the progress of enterprises, and at the same time solicit aid. Outside of the greater associations which aim to support the efforts of the public powers in the work of popular education, there are among teachers a certain number of mutual aid societies which have also their bulletins. These bulletins do not merely record the deliberations and decisions of the society, but have also a pedagogic department where everybody reports the result of his observations, recommends this or that method, and, in short, seeks to make his colleagues profit by his experience and studies. The most important of these societies is the Union of Public School Teachers of the Department of the Seine, founded in 1888. Its bulletin appears monthly.

The syndicate of teachers formed after the plan of the syndicate of workmen publishes two journals with socialistic tendencies—the *Echo Nouvelle* and *Les Congrès et les Associations d'Educateurs et d'Instituteurs*.

Another journal which, without being the particular organ of an association, is destined to unite the different associations of teachers and to give them more vitality by publishing their works, is the *Union Pédagogique*, published monthly since 1891. It plays a very useful part, and has begun to occupy an important place in school journalism. Thanks to this journal, the good ideas and interesting efforts of provincial teachers are drawn out of the somewhat narrow circle where the special bulletins of departmental teachers' societies abound. These modest journals are nevertheless a sign of a praiseworthy pedagogic activity, and it would not be just to make eulogistic mention of a few of the small leaflets that are gallantly fighting against routinism. It remains now to say a word of a bulletin of a special nature. I refer to the *Bulletin Scolaire de l'Union Française pour le Sauvetage de l'Enfance*. This society, founded in 1887, has for its object the defense of the guardianship of ill-treated children and of those exposed to moral dangers. In 1890, the Minister of Public Instruction authorized the schools to join this league for the rescuing of children. The *Bulletin Scolaire*, which appears about ten times a year, publishes the list of schools which have collected membership fees or gifts in favor of the French Union, and all information touching the work that will be of interest to pupils in the schools.

Let us add, finally, that there exists in every *département* (county) an official bulletin of elementary instruction. These departmental bulletins are gratuitously sent to teachers and are the property of the school. They instruct the teaching personnel regarding their appointments, dates of examinations, pedagogic conferences, etc.; they reproduce the greater part of the ministerial circulars which appear in the *Bulletin Administratif* of the Minister of Public Instruction.

If we go back to the origin of the French educational press, we find that it has made remarkable progress in the last twenty years. The first journal of education dates from 1789; this is the *Journal de Famille ou Livre des Enfants* of Seguin. From 1789-1870 have appeared about sixty school journals and bulletins of societies devoted to popular instruction. Among the journals properly so-called, only a few have survived—the *Manuel Général*, the *Ami de l'Enfance*, and the *Journal des Instituteurs*. All the other educational periodicals have sprung up since 1870. But we have mentioned only the journals and reviews actually appearing, and that without pretending to give an exact and complete list. Looking backward, we can estimate the number of school journals at one hundred, of which more than one-half are devoted specially to questions touching elementary instruction.

APPENDIX.

THE following papers were prepared for and submitted to the International Congress of Education, at Chicago, July 25-28, 1893, through Hon. William T. Harris, Commissioner of Education of the United States, and General Chairman in charge of the Congresses.

None of these papers were read at sessions of the Congress, but, containing as they do much important recent information in relation to the condition of education in foreign countries, they are here appended to the proceedings.

The series of papers on the Education of Women in Great Britain and her colonies, were prepared under the auspices of Mrs. Millicent Garrett Fawcett, and offered to the International Congress of Education at the request of Dr. Harris.

LIST OF THE PAPERS.

"University Education for Women in England," "A Few Words of Retrospect and Forecast," "University Association of Women Teachers," "Elementary Education in England," "National Education in Scotland," "Women Students in the Scottish Universities," "Convent Education in Ireland," "Women's Education in New Zealand," "Educational Work for Women in Australia, chiefly in New South Wales," "Recent Developments of Education for the Women and Girls of India," "English Orphanage and Training School in Bosnia, 1869-92," "Elementary and Secondary Education in Cape Colony, Africa," "Public Instruction in Italy," "Needlework in the Public Schools of Stockholm, Sweden."

UNIVERSITY EDUCATION FOR WOMEN IN ENGLAND.

BY MRS. HENRY FAWCETT [MILLCENT GARRETT FAWCETT].

THE story has often been told how the exclusion of the women delegates, chosen by two of the American societies, from the great anti-slavery convention held in London in 1840, led to the first formal and organized claim of women to the rights of citizenship. The seed had lain long in the ground, giving signs of life indeed, but none of rapid germination. It will be readily understood that a considerable degree of heat was engendered by the controversy whether it was in accordance with social decorum and the ordinances of Almighty God that Mrs. Mott and Mrs. Stanton, having been chosen as delegates, should sit and speak and vote as delegates, or should be fenced off behind a bar and curtain as mere spectators. This heat was just what was needed to start that process of growth which has never ceased since that day either in England or in the United States. The supporters of exclusion carried the day; the majority of the men who had met to take counsel together how they could best oppose negro slavery were not prepared to concede the most elementary civil liberty to women. But as Mrs. Mott and Mrs. Stanton left the hall, they then and there resolved to call a women's rights convention on their return to their own country. Among the Englishwomen who were the spectators and auditors of the discussion which led to the exclusion of the

American ladies from the conference were Mrs. Fry, Mrs. Jameson, Lady Byron, and Mrs. Howitt. The seed germinated in their minds too, and the conviction grew that if liberty was good and a thing worth striving for, it would be good for women. The movement for political enfranchisement, equal laws, opportunities of employment and of education for women, received a most important impulse in England from the slight put upon the American ladies by the anti-slavery convention.

I propose to endeavor to trace in outline the development in England of one of these main branches of the women's movement—the claim to share in higher education.

The defective state of women's education in the first half of the century, and still more in earlier times, it is difficult now to realize. Defoe had called attention to it in one of his essays on Projects. Mary Wollstonecraft had protested against it and against the mass of false theory and evil practice which supported it. Sydney Smith had assailed it with the keen shafts of ridicule. But very little had practically been done to place the education of women on a rational basis. The first definite piece of work in this direction was begun in 1846, and owed its initiative to the Rev. Frederick Denison Maurice, who was then one of the professors of King's College, London. The idea occurred to him that as it was part of his duty to teach young men at King's College, it would be right and suitable to provide classes for their sisters. The practical outcome of this idea was the foundation of Queen's College. The Dowager Lady Stanley of Alderley seconded Mr. Maurice's efforts. He was also aided by Dr. Trench, afterward Archbishop of Dublin,* and by the Rev. C. G. Nicolay, then both professors of King's College. Classes for young women were opened in 1846; in 1848 a house in Harley Street was taken, and in 1853 a Royal charter was obtained. The educational importance of the foundation of Queen's College is difficult to exaggerate. It opened a new life to those who profited by its instruction. Among its earliest pupils were Miss Buss, now of the North London Collegiate School for Girls, and Miss Dorothea Beale, now of the Ladies' College, Cheltenham. These two ladies have devoted their whole life to raise the standard of girls' education. They founded schools of their own which afterward served as models for the schools of the Girls' Public Day School Company, and have had a most important influence on the development of education all over the United Kingdom.

Queen's College, being in a sense a sister establishment to King's College, was from its foundation a Church of England institution, whereas Bedford College, founded mainly by Mrs. Reid, in 1849, was entirely undenominational. As Queen's College is able to boast of Miss Buss and Miss Beale as among its earliest students, so Bedford College lays claim to the distinction of having provided part of the intellectual equipment of George Eliot, and of Barbara Leigh Smith, afterward Mme. Bodichon, one of the founders of Girton College. After the foundation of Queen's and Bedford there was a long period of quiescence, when, if progress was made at all, it was so slow as to remind one of what Mr. Russell Lowell once said of the movement of public opinion in England. He said it was like the movement of glacial drift; you could not see it move, but when you looked again, after an interval, you found it *had* moved. Possibly the slow rate of progress in the development of higher education for women after the foundation of Queen's and Bedford Colleges may be accounted for by the preoccupation of the national mind with the Crimean war and the Indian Mutiny of 1854-6 and 1857-8. Times of national crisis, "the glory and grief of battle, won or lost," may solder a race together, but the years thus occupied are not usually the years when social movements make rapid progress. Such times, however, are great tests of character, national and personal. In the presence of real danger, conventions and insincerities are at a discount; any one, man or woman, who can do a stroke of work for the country is urged to do it.

* Archbishop Trench afterward became one of the chief promoters of Alexandra College, Dublin.

The national necessities of England during the Crimean war gave Florence Nightingale the opportunity of doing the work which her capacities, character, and training had fitted her to do, and indirectly gave an impetus to another movement which has resulted in England in the opening of the medical profession and of university education to women. The train of ideas is not difficult to follow. If women can be of essential service to the sick as trained nurses, why should they not also be of essential service to them as doctors? To obtain medical education, women had to knock at the door of the universities, and while they asked for medical education they also asked for instruction in other branches of knowledge.

In April, 1862, Miss Elizabeth Garrett (now Mrs. Garrett Anderson, M.D.), then working with the aim of obtaining a medical qualification, memorialized the University of London to open their degrees to women. Her application was refused on legal grounds, but on the last day of the same month her father reopened the subject by again addressing the senate of the university, begging for a reconsideration of his daughter's application, and suggesting that a clause should be added to the charter of the university expressly providing for the admission of women to its examinations and degrees.

On May 7, 1862, Mr. Grote, the historian, vice-chancellor of the university, moved a resolution favorable to the request of Mr. Garrett's memorial. This was seconded by the Right Hon. Robert Lowe, M.P. (afterward Lord Sherbrooke); but after a protracted discussion the voting was equal, ten on each side, and the proposal was negatived by the casting vote of the chancellor. On this occasion the petitioners were able to appeal to the original charter of London University, where it was stated in the broadest possible terms that the university was founded with the object of holding forth "to all classes and denominations, . . . without any distinction whatsoever, an encouragement for pursuing a regular and liberal course of education." It appeared, however, that when this was written, in 1836, the great discovery of the nineteenth century, that women are human beings, had not been made. Women were told that though the university was for "all classes and denominations without any distinction whatsoever," it was not for them. Though defeated, the applicants felt by no means discouraged.

In the autumn of 1862 a committee was formed to obtain for women admission to university examinations. The honorary secretary of this committee was Miss Emily Davies, and the honorary treasurer was Lady Goldsmid. To Miss Davies more than to any other single person this branch of the women's education movement owed its inspiration and direction. The committee began its work in what they wisely believed to be the line of least resistance. Very few people at that time were prepared to open the honors and tripos examinations of Oxford and Cambridge to women, but girls' schools were familiar and not terrifying objects even to the most timid. The first work undertaken by the committee was the effort to open to girls the university local examinations which had been established for boys in 1858. About the same time (1864) Miss Davies and Miss Bostock were instrumental in preparing, independently of the committee, a memorial to the recently appointed Schools Inquiry Commission, praying them to include girls' schools and the application of endowments to girls' education within the scope of their inquiry. The success of this application was one of the most important turning points in the struggle for the reform of girls' education. It gave the reformers a mass of evidence authenticated by the royal commission. It brought to light the almost entire exclusion of girls from the benefits of educational endowments, and had a very important bearing on the work that was subsequently done by the Endowed Schools Commissioners in restoring to girls some of the educational endowments of which they had in previous generations been deprived. It is true that some schoolmistresses, when the Schools Inquiry Commission was appointed, deeply resented its investigations. One replied that the questions asked were too inquisitorial for any woman of spirit to answer,

and that every girl of spirit would leave the room on the appearance of the assistant commissioner in it. Another replied to a letter asking permission to visit the school: "I am sincerely sorry to find that ministers have nothing better to do than to pry into the *ménage* of private families, as I consider my establishment, which has been in existence thirty years and always held the highest position."

The commission reported in 1868. It is unnecessary to dwell in detail on the character of the report as regards girls' schools. It is sufficient to say that with but few exceptions, such as the Quakers' School at York, the North London Collegiate School, and the Ladies' College, Cheltenham, hardly any girls' schools were reported upon as supplying their pupils with a liberal education. One of the chief causes of the defects in girls' schools was the want of suitable preparation for the profession of teaching on the part of governesses. "My poverty and not my will consents" might have been the motto of all but a very small proportion of the women who embarked upon this honorable and difficult profession. Another reason for the low standard of education in girls' schools was the indifference of parents and the public generally to anything in girls' education beyond what was showy and attractive. As a consequence of this want of interest in good education, nearly the whole of the educational endowments of the country had been appropriated for boys. The report of the commission afforded a solid foundation of fact on which the reformers of girls' education have industriously built. Public attention was thoroughly aroused, and plans for improving the education of girls sprang up in a variety of directions. Very much was done to repair the injustice done to girls in the matter of endowments by the labors of the Endowed School Commissions, now merged in the Charity Commission.

Meanwhile Miss Davies' committee, formed in 1862, took up, as I have just said, as its first piece of work, the opening of the local examinations of the University of Cambridge to girls. These examinations are for young people of the school age; the juniors must be under fourteen and the seniors under sixteen; the examinations are held simultaneously in different local centers all over the country and in the colonies. When first established they were for boys only; in December, 1863, an experimental examination for girls was held in London, at which, with the consent of the Local Examinations Syndicate at Cambridge, all the regulations enforced in the case of boys were strictly observed. The next year a memorial signed by more than one thousand teachers of girls and many other influential persons was addressed to the vice-chancellor of the university, on the subject of opening the local examinations to girls. The reply was favorable, but the matter had to be referred to a vote of the senate. On March 12, 1865, Miss Davies received a telegram from Mr. Markby, secretary of the Cambridge Local Examinations Syndicate: "Send up all you can to-morrow—voting at 12. Opposition organized." On March 13th he wrote as follows: "Fifty-five to fifty-one, so we are successful; it was a close contest. I got votes enough to turn the scale just before going into the Senate House." Cambridge was thus first in the field as regards English universities to open any of its examinations to girls; Oxford very shortly afterward opened her local examinations also. The chief point to be remarked is that, owing chiefly to the strong views entertained on the subject by Miss Davies, exactly the same examination papers were used for boys and girls and exactly the same regulations were observed for both, except at first, in the case of Cambridge, the names of the girls examined were not given. Miss Davies has always been a very staunch opponent of any special university examinations for women, or of any variation, in the case of women, of what the university requires from the men who offer themselves for the tripos examinations. Difference on this subject is the chief difference between those who have guided the fortunes of Girton and Newnham respectively.

The labors of Miss Davies' committee having been successful in opening the local examinations to girls, she immediately afterward began to project the idea of a college

for women students beyond the school age, where they could be prepared for university examinations of a more advanced character. The first list of subscriptions to this proposed "college for women" is dated 1869, and amounts to nearly £3,000. The executive committee met in London, and the college when first opened, in 1869, was situated at Hitchin, in Hertfordshire, about half-way between London and Cambridge. In 1872 the college was transferred to handsome buildings specially erected for it at Girton, about two miles from Cambridge.

Having traced the development of one branch of the women's education movement as far as the opening of Girton College, I must now ask my auditors to allow me to trace the development of another branch of the same movement which culminated in the foundation of Newnham College. I like to think of these two colleges as sister stems of a beech-tree, deriving their nourishment from the same root, but having an independent growth, and differing from each other in some externals. The development of each presents some interesting examples of the interdependence or *solidarité* of the several parts of the women's movement.

The same energy that produced Girton also gave the first impulse to the opening of the medical profession to women in England, and also to the opening to women of university examinations of identically the same character as those provided for men.

The energy that produced Newnham produced also what is now known as University Extension, which in its turn led to the formation all over England of university colleges in our principal centers of population, where men and women, not able to proceed to either of our ancient universities, can obtain advanced instruction.

The promoters of Girton set before themselves, with unalterable determination, the aim of making the tests applied to university education for women exactly the same as those for men. The promoters of Newnham approached the subject of the reform of women's education in a rather different spirit. They found it defective, and sought to remedy its defects without desiring to follow exactly on the lines of men's education where they thought these were capable of improvement. Both, in my judgment, have been most useful; they have been complementary to each other. Girton has maintained for women the highest intellectual standard; Newnham showed a greater power of adaptability to the then conditions of the educational problem, and had in view excellence of examination as an educational test, rather than identity of examination of women with men all through the university course. Miss Anne J. Clough was to Newnham all, and I may say more than all, that Miss Davies was to Girton. She was not only the founder of the college and the originator of the movement from which the college sprung—Miss Davies was that to Girton—but she was for the first twenty-one years of its existence its principal. She more than any other one person was, as a woman, the representative in the university of university education for women; and she was the embodiment of wisdom, kindness, gentleness, and tact, that won her not only the enthusiastic loyalty of her students and personal friends, but the cordial respect and consideration of the university authorities. Her death last year was referred to in a university sermon preached by the Bishop of Peterboro', and in the annual address given by the vice-chancellor, as one of the chief losses which the cause of education had recently sustained. Her combination of sweetness, humor, and determination made her an unique personality, to which much of her singular power of influencing other minds was due.

In 1866 Miss Clough was resident in Liverpool, and with the coöperation of Mrs. Josephine Butler formed the Liverpool Ladies' Educational Society. This society instituted courses of lectures for ladies, requiring steady work from those who attended them. After rather more than two years' successful work the society enlarged its aims. University lecturers were engaged, and other towns were invited to join in the scheme, so that the lecturer might go from town to town, spreading the means of higher education for women in each. The inaugural meeting of this society, which took the name of

the North of England Council for the Higher Education of Women, was called by Miss Clough at Mrs. Butler's house in 1869. Manchester, Leeds, and Sheffield joined, and the Ladies' Educational Council was formed, with Mrs. Butler as its president and Miss Clough as its secretary. This was the beginning of university extension, and ultimately of the university colleges in many of our chief cities, and led indirectly to the foundation of Newnham College.

Among the Cambridge men who were in hearty sympathy with the efforts to spread education among women were Mr. Henry Sidgwick and Mr. James Stuart, both of Trinity College. Mr. (now Professor) Sidgwick, with the help of Miss Clough, undertook the direction of the movement for the higher education of women in the university. Mr. Stuart (now member for Shoreditch) directed, or rather created, the movement for university extension. Time does not allow me to follow the history of this movement in any detail. It has had an important bearing on the higher education of women. Its principle is now well known. "If Mahomet cannot go to the mountain, the mountain must go to Mahomet." To women in their homes, to clerks at their desks, to artisans at their work, Mr. Stuart and his coadjutors said: "If you cannot go to the university, the university shall come to you." In consequence of his efforts, university extension has spread all over the English-speaking world; your own Chautauqua is its child.

In England many of the towns that took the lead in welcoming the university extension scheme were not long content with the visits of itinerant lecturers. The Firth College, Sheffield;* University College, Nottingham; the Yorkshire College, Leeds; and the university colleges of Liverpool, Bristol, and Newcastle, sprang up in response to the demand for higher education that had grown up out of the university extension movement. The university colleges of Wales, and the Mason College, Birmingham, are probably related to the same movement; and to these colleges, all over the country, we certainly owe the establishment of the Victoria University. It must be noted that the origin of the whole movement was in that meeting called by Miss Clough in Mrs. Butler's house in 1869. Hence, as of so many other good things, we may truly say of it, "*Cherchez la femme*;" and the consequence is that university extension has been absolutely open and equal to women all along. They are admitted on equal terms to all the classes either at extension centers or at university colleges (except when these latter include medical schools); and when Victoria University was founded by Royal charter, in 1880,† all its degrees were as open to women as to men. The slow and grudging recognition of the claims of women to higher education which is a blot on the history of Owen's College, Manchester, is largely due to its being an older foundation, opened in 1851, before it had been discovered that the education of women was an important factor in national development.

One other word must be added about the university colleges. They and University College, London, and the university extension classes everywhere, are the only important things we in England have to show in the way of mixed education. If we may still speak of this as an experiment, the experiment has been thoroughly successful; men and women sit together in the same classrooms, learn the same subjects, are tested by the same examinations, and the world has gone on much the same as it did before, only better, by giving men and women more points of sympathy and a larger number of common interests.

* I have not ascertained the number of women students attending classes at all the various university colleges, but I take the one at Nottingham as a fair example of the rest, and I find on inquiry from Professor Syme, the principal, that, in the year just closed, 200 women attended day classes and 750 attended evening classes.

† The first examinations of Victoria University were held in 1881, when only men entered; two women presented themselves for examination in 1883; in 1892 the number had increased to thirty. There are now forty-four women graduates of this university.

Going back now to the beginning of Newnham College, the lectures established by the North of England Council for the Higher Education of Women led to a demand for a university examination of a higher grade than the senior local, and in 1868 the *examination for women over eighteen*, afterward called the higher local, was established by the University of Cambridge.* Miss Davies and the Girton committee opposed this as antagonistic to their main principle—identity of educational tests for men and women. Miss Clough, Mr. Sidgwick, and the other promoters of Newnham supported it as meeting a present need. Lectures for women in Cambridge, much on the same plan as those organized in Liverpool and other northern towns by Miss Clough and Mrs. Butler, were projected in 1869, and actually begun in 1870. Mr. Henry Sidgwick was the originating mind of the whole scheme.

I hope I may be pardoned a feeling of satisfaction in recalling the fact that the first meeting in Cambridge to discuss this plan was held at my house in December, 1869, and that the first document in the books containing the history of Newnham is the notice convening this meeting. The necessity of seeking the line of least resistance is apparent throughout this little document. The *economy* of having lectures for women delivered in Cambridge by lecturers already engaged in lecturing on the same subject in their respective colleges is pointed out. There was, perhaps, another kind of economy in this method of stating our case. The circular also mentions that though the immediate object of the lectures would be to afford means of higher education to women residing in Cambridge, yet if women from a distance, not having friends in Cambridge, "should come here for the purpose of attending the lectures," it would be necessary to provide "some lodging or hall" for them. The word "hall" was the only vestige of intrepidity in the circular. But I ask those who would point the finger of scorn at us to remember that if we had said we wished to establish a college for women in Cambridge we might as well have said that we wished to establish a college for women in Saturn. It was an absolute necessity to proceed with great caution. We made a good deal of use of the fact that the university had established an examination for women over eighteen, and that the lectures for women in Cambridge were designed with a view of providing the education which that examination has been instituted to test. We asked no recognition from the university further than what had already been given.

The whole machinery of the lectures was voluntary; several of the most distinguished professors had for many years past allowed the presence of ladies at their lectures. And many of these, besides some of the leading college lecturers, gave their support to "the lectures for women." Our first list of friends contains the names of Professors Adams, Cayley, and Maurice, besides those of Messrs. W. C. Clark, Clifford, Jebb, Marshall, Skeat, and Todhunter; and the first series of lectures was delivered by men many of whom had even then gained a world-wide reputation in their respective subjects. How much the whole movement owes to those men who befriended us at the very beginning of our efforts, I hope none of us will ever forget. In the Michaelmas term, 1870, Mr. John Stuart Mill and his stepdaughter, Miss Taylor, gave us a scholarship of £40 for two years. The same year Mr. A. J. Balfour gave us £20 toward a fund for a similar purpose. The numbers attending the lectures made satisfactory progress, and the contingency, which had been foreseen from the beginning, became a reality. Women from a distance, not having friends in Cambridge, desired to reside in the town for the purpose of attending the lectures; and in 1871 Miss Clough was invited by the committee to come to Cambridge and open a house for these women students, of whom at first there were five only. This was the beginning of what is now Newnham College.

* This examination was open to men in 1873, but very few men avail themselves of it.

The plan pursued by Newnham and Girton in regard to the examinations of the university differed in one not unimportant respect. Newnham used the higher local examination established by the university for women over eighteen as the first test of educational progress, proceeding afterward, by the permission of the examiners, to enter them for the tripos examinations of the university. The opinion of the authorities of Newnham was that the higher local was a decidedly better educational test than the university examination for men known as the "Little Go," and that it was also more suited to the needs of women. Girton, as I before explained, would have nothing to do with any special examination for women; every Girton student, therefore, had to pass the "Little Go" before applying to the examiners for leave to be examined in any of the tripos examinations.

There were and are other minor differences between Girton and Newnham. Girton is founded on the principles of the Church of England; Newnham is completely unsectarian. Girton allows its students to study for the ordinary degree examinations; Newnham students only prepare for the tripos examinations. If for any reason it is considered unsuitable to submit a student to the test of a tripos, she is at Newnham encouraged to take various groups of the higher local. The ordinary or "poll" examination is not recommended. Girton is two miles out of Cambridge, and is governed by an executive committee, which meets in London and is composed almost entirely of London people. Newnham is in Cambridge, and is managed by a council, which meets at the college and consists almost wholly of Cambridge people.

In 1878, as the result of long struggle for medical education, all the degrees of London University were thrown open to women. This undoubtedly had a stimulating effect upon the friends of women's education in the University of Cambridge. The system represented by London University would be unduly favored if London gave perfect equality to its women students while Cambridge merely suffered them to exist without giving them any claim to have their knowledge tested by university standards. From the time of their foundation to the year 1881, Newnham and Girton students could only enter for university examinations other than the higher local, by grace and favor of the examiners. There was no official recognition by the university of the women students.

In 1880 a movement was initiated by Professor and Mrs. Steadman Aldis, of Newcastle, and supported by Miss Davies and the Girton committee, to put an end to this state of things, and memorials were sent by them to the senate of the university, praying that degrees might be opened to women who fulfilled the conditions of residence and of examination which the university demanded of its male students. The memorial promoted by Professor Sidgwick did not go as far as this. It was signed exclusively by members of the university, and prayed that the arrangement by which the students of Girton and Newnham had been for the last ten years informally admitted to university examinations should be placed on a formal and stable footing by receiving the sanction of the university. This proposal was carried by grace of the senate by an overwhelming majority, on the 24th of February, 1881. From that time women had an assured position in the university; their claim to education was formally sanctioned. The success of the whole movement has from one point of view been very remarkable. The high place gained by women students in the various tripos examinations is so well known as to require no emphasis. There have been women senior in every tripos except those in theology and Semitic languages. But from another point of view there has been no progress. Women may take the highest honors that the university examinations afford to either men or women, but they are not members of the university, they have no degree. The humblest poll man who has scraped through just sufficiently well to put B.A. after his name has a position superior to theirs. No university prize

is open to them for competition,* and, *a fortiori*, none of the educational posts in the university, which are of course reserved for members of the university. The libraries, museums, and laboratories of the university are used by them on sufferance; they have been desired not to occupy a seat in the university library, because there are not more seats than enough for "members of the university."

The intellectual distinction of many women students, and the scholarly work done by several of them after they have passed the tripos examinations, seem to have produced no effect in securing for them any approach to equality with members of the university. A series of memorials organized by Miss Davies, and very influentially signed, were presented to the vice-chancellor and senate in 1887, asking that women might be admitted to degrees. These memorials were not supported by Professor Sidgwick, who thought the time had not then come for raising the question of degrees. The council of the university declined to appoint a syndicate to consider the question of opening degrees to women, and since that time no further effort has been made in this direction.

I have given the history of the higher education of women in the University of Cambridge at some length, because that has been the center of the movement so far as England is concerned, and also because I am personally acquainted with its details, whereas I only know the history of Somerville and Lady Margaret and St. Hugh's, at Oxford; of Holloway and Westfield Colleges, and of the Welsh university colleges at second hand. The Association for the Education of Women in Oxford provides the teaching for the Oxford women's colleges. The regulations of the University of Oxford in regard to women do not confine the examinations of the university to women who reside within its precincts. Students may be prepared for these examinations in their own homes, or at colleges such as Holloway or the Welsh university colleges. This is the main distinction between Oxford and Cambridge, so far as their connection with women's education is concerned.

The vote of the University of Oxford opening its examinations to women was passed in 1884. Somerville was opened in 1879, Lady Margaret in 1879, and its younger sister, St. Hugh's, in 1886. Westfield is a college for women in London conducted on Church of England principles. It was founded in 1882 and prepares students for the degrees of London University. The Royal Holloway College, the palatial buildings and endowment of which are due to the munificence of the late Thomas Holloway, was opened by her Majesty in the year of her jubilee, 1887. It prepares students for the Oxford examinations and also for the London degrees. Illustrations of the buildings and grounds of all these colleges, as well as of those of Newnham and Girton, will be found in the Women's Building among the exhibits of the subcommittee on education in Great Britain. The Welsh university colleges at Bangor, Aberystwith, and Cardiff all have halls for women students, and women are admitted on equal terms to all their educational advantages. They prepare their students for the examinations of the universities of Oxford and London, and in general for any university examinations where residence is not required.

I refrain from a long parade of figures illustrative of the growth of the university education of women in England, but I may mention that in the old seats of learning more than a hundred women are studying in the women's colleges at Oxford, and close upon three hundred at Cambridge. The first year the London University was open to women (1878), sixty-six women passed its examinations; the number had risen in 1892 to five hundred and sixty-eight. When one reflects that the whole of this movement has grown up within the scope of one lifetime, almost within one generation, I think we

* Mrs. Philippe has recently founded a prize, in memory of her brother, Arnold Gernstenberg, on the express condition that it should be open to the students of Girton and Newnham, as well as to "members of the university."

may fairly congratulate ourselves on the progress that has been made. The movement of glacial drift, though slow, is overwhelmingly powerful, and so continuous as almost to baffle imagination. We no longer resent Mr. Lowell's comparison, but are content that the renaissance of the nineteenth century, the awakening of women to a perception of the wonders of the old learning and the new science, should go on "without haste and without rest."

A FEW WORDS OF RETROSPECT AND FORECAST.

BY DOROTHEA BEALE, LADIES' COLLEGE, CHELTENHAM, ENGLAND.

WHEN Mrs. Fawcett and I came to compare notes we found that our papers covered much of the same ground. Mine had been written during the brief intervals of school work; hers was far more complete. I therefore willingly suppressed mine; but I may add as a sort of postscript to hers a few words of retrospect and forecast, for I have one advantage over her—I have lived longer; I was born in the *dark* ages and have witnessed the renaissance.

I need not touch on the facts which are fresh in your memory. Once we cut our way slowly through the tangled thickets of popular opinion. "Thou shalt *not*" was the beginning of most of the commands addressed to women then; and some turned sadly back, and those of us who pressed on, spite of many prophecies of evil, did so often in fear and trembling.

There are those now who look back upon the vision of the ideal housewife and sigh for the "good old times." The scientist has been welcomed by Cinderella. He has set her free from much household drudgery, and her energies, available now for higher work, have surely enriched the commonwealth.

Can we, now that we have reached a vantage ground, look back and say: "All is well"? Are women better or worse for the wider opening of the gates of knowledge to women, for university teaching, for examinations and degrees? Is it better for them, is it better for the commonwealth, that the "old order should give place to new," and that the restrictive law, "Thou shalt not," should be exchanged for the *life-giving* word, "Thou shalt"? The answer must surely depend on our faith in women. Knowledge and power exist only in a living person; they are good or evil according to the way in which he uses his knowledge and his strength. Those who have *no* faith in woman will desire for her the life of restriction; those who believe that she too has risen to a higher life through Christ, will believe that she too is to tread upon serpents and scorpions, to carry on a holy war, to be a *Una* or a *Britomart*.

And what so far has been the result of the new movements? What has been the effect of the higher education? Has the light of truth quickened not only the mental but the moral life, and been a blessing not to the individual only but to the commonwealth?

Look first at the commonwealth. I need not ask now whether it was well that Florence Nightingale, spite of the outcries of many Mrs. Grundys, went to nurse the soldiers in the East. That pure and gracious figure has been a vision of beauty, for she has passed out of the sight of the world to live the hidden life of charity. Truly she is still a prophetess, who was able to make the dead arise, and we see an army of earnest workers filling the place of Mrs. Gamp in hospital, workhouse, and infirmary.

Many have learned through her the beauty of the Master's words: "I am among you as one that serveth."

And surely, too, the world is better because Mrs. Fawcett's sister led the van in the great struggle, which seemed so hopeless until the first victory in Edinburgh became like the flight from Mecca, the beginning of victory. I remember when it was considered indelicate for a woman to study the human body. Strange that it did not seem to

English women, as to our Oriental sisters, that it was equally indelicate to be doctored by a man ; that if in no other, in this at least, as Mrs. Jameson earnestly pleaded, there should be a communion of labor. And now the *highest* sanction has been afforded to those who in India and elsewhere are giving to their suffering sisters the help which only those who have gone through the scientific study of medicine *can* render.

And for the women doctors themselves, I appeal fearlessly to those who have known them. Are they not, with few exceptions, women full of tenderness and womanly feeling, neither womanish nor mannish, but womanly and manly, too ? And surely it is a good vision our poet-prophet saw in coming time, "when the man should be more of woman, she of man."

Surely it is well that woman, pondering these things, should learn to feel that if the spiritual principle is that which forms the body, yet the degraded body brutalizes the soul ; that they should join in the holy war against intemperance in its many forms ; that they, too, should descend "into the cruel habitations," "to deliver the spirits in prison that have been disobedient to God's laws ; that they, too, should go down and raise their sisters."

Is it well that women, armed like Britomart, should watch for souls in the police-court, the prison, the workhouse ; that they should show to the men who have learned to despise women that there is in the lowest a spark of good which the heat of divine pity can fan into a flame ? *Such* noble women have moved many a knight to put on "the bloody cross in dear remembrance of his dying Lord," and go forth to war against the great *dragon*.

"This may be well," some may say, and yet ask further : "Is it well that the gates of knowledge should be thrown open, that the tree of knowledge of good and evil should be allowed to grow in the garden of Zenana ? Is it well that girls should pass down the lanes where the hedges are made bright by the lovely berries of the deadly nightshade ?" The choice does not rest with us ; evil and good grow together in this world of ours ; the danger surely is aggravated by ignorance. Let the eye and the taste be taught to discern good and evil, and the soul disciplined to obedience ; this alone is our safety.

I appeal freely to the experience of those who have been able to contrast the system of liberal bodily and mental diet, of free and vigorous exercise, with that of restraint and seclusion. Our girls are far healthier in body and mind, more happy, more useful, more truly womanly, than those whose whole nature was less fully developed. Besides, a woman with wider intellectual interests can be a more true and helpful companion, a being "breathing thoughtful breath." That alone is a true marriage which is a union of souls. It is not well that the husband should live in a different region of thought and feeling and religion from his wife ; that mother and son, brother and sister, should inhabit different worlds. There are actors who learn only their own speeches and trouble themselves about nothing until they take up their own cue. Need I say these are failures ? But those who have entered, like the Meiningen actors, into the whole play—they alone could give their own part with effect.

And so in life ; each will have his or her own province of work, but each will do her own better the more she is in sympathy with others. Women will be able to do their work *as* women better from understanding better the work of men ; and men, as they learn to respect women, will be more desirous to be respected by them.

This reflex influence on men is not the least of the good which comes from women having a higher education, and it would, I am persuaded, have no degrading influence upon political life.

I would fain dwell on the blessings to the community of the increased moral influence of women, as they have rebelled against that profane teaching of our great poet, which so marred the nobility of his character and lowered the standard of right both for men and women : "He for God only, she for God in him." It has been truly said that

slavery degrades the slave owner even more than the slave ; and all history teaches us that those who treat women as property rather than spiritual, responsible beings, are degraded; and we do believe this advance has had a vast spiritual influence, for which we thank God.

The chief leaders of this great movement "have surely deserved well of the republic." Miss Buss, Miss Shirreff, Mrs. Grey, and Miss Emily Davies survive to look on a changed world. All has been done quietly, patiently, gradually. The old idea of a "lady" is gone. To render *service* is felt to be the highest privilege. And it is mainly this desire that has made women contend for education and training. This passion for serving, as Ruskin has taught, stimulates every faculty, glorifies and gives insight into nature, and hallows all art. This, as our great musicians have shown, ennobles the emotional nature and exalts its expression. As soon as women came to feel the value of a higher education for themselves they longed to lift up those who had not their advantages ; a great army of unmarried have become working bees in the social hive. Women have taken their share in great social organizations. They have sat on school-boards ; they have been elected guardians of the poor, aldermen, and county councilors. Women have been appointed assistant calculators in the Royal Observatory, clerks on labor commission, to say nothing of other civil service appointments. Many women have become speakers and writers on social topics, missioners on temperance, sanitary science, dress, cooking, home arts and industries, plain and art needlework, Slöyd, etc.

Some took up lecturing as a profession, and are employed by the Palestine and Egyptian Exploration Societies. Miss Harrison lectures at the British Museum on Greek art. Others have taken up physical culture, regarding it as a matter of national importance.

It was an imposing gathering of about two thousand women at the Conference of Women Workers at Bristol last autumn, all of whom are engaged in some philanthropic work, able to write and speak clearly, to organize and to direct.

There are about sixty different orders of Sisters or Deaconesses, engaged in a vast variety of religious, philanthropic, educational, and charitable work ; in the Salvation Army, as in the Society of Friends, women hold equal rank with men.

Vast organizations of many thousands have been formed and managed by women, to help those who are working for their bread ; notably, the Girls' Friendly Society, the Mabis, the Christian Young Women's Association, the Young Women's Help Society, the Girls' Club Union, and the College for Working Women. The Oxford and Cambridge colleges, and the Cheltenham Ladies' College have tried to do work in these lines, and have established settlements of their own in the poor parts of London. Noble women have been leaders in the great crusade against the most terrible evils which afflict humanity. The old prejudice, that for a woman to earn money was to lose caste, is almost a thing of the past ; those who are admitted to the highest circles of society have accepted headships of women's colleges.

Head-mistresses rank with head-masters. Lady physicians and other professional women now take the place to which they are entitled.

I believe too that the vast social work that has been carried on by women has averted, for a time at least, social convulsions as terrible as those of a century ago. This cannot, of course, be proved, and

"The world which credits what is done
Is blind to all that might have been."

The positive good all know when they see the fierce spirits tamed and the desperate rescued from the sloughs of despondency by the power of holy and beautiful lives, proving that good is stronger than evil.

"Amor vincit omnia."

UNIVERSITY ASSOCIATION OF WOMEN TEACHERS.

BY CONSTANCE ELDER, HONORARY SECRETARY OF THE UNIVERSITY
ASSOCIATION OF WOMEN TEACHERS, ENGLAND.

THE movement toward obtaining university education for women had stood the test of fourteen years' actual working when the University Association of Women Teachers came into existence. The period covered was one of hard labor on the part of its promoters, to gradual but assured success. In 1869 the first of the two sister colleges (Girton) was opened at Hitchin, a village in Cambridgeshire, and, slightly later, the second, called at first Merton Hall (practically the beginning of Newnham), was opened in Cambridge itself. Ten years later the two Oxford halls, Somerville and Lady Margaret, were opened simultaneously.

The year 1881 was made memorable to those interested in the higher education of women by the passing of the graces by the Senate of Cambridge University. Hitherto the examinations for women had been quite informal and were unauthorized by the university, and it was only by the courtesy of individual examiners that the papers were corrected. This being the case, it was even possible that the examiners might refuse to examine, and so the work of three years might fail of its rightful recognition. Such a state of things could not continue. Friends of the new movement began to agitate by means of memorials on the subject, and finally the scheme already followed informally was adopted by the Senate. The result of this concession is that women and men now stand on the same footing as regards examinations, and though women are not eligible for degrees, they receive a university certificate showing the examination they have passed, and the class they have taken. By the statutes of convocation passed in 1886 and 1888, similar privileges to those enjoyed by Cambridge women students were conferred on Oxford women. The number of women students at both universities had in the meanwhile largely increased, and outside the universities the system of secondary education in endowed and proprietary schools had created a demand for teachers of scholarship and cultivation. Private coaching had also become daily more sought after.

In 1872 the Girls' Public Day School Company had been formed by a number of persons interested in the subject of girls' education. The object of this movement was to secure more adequate provision for secondary education of girls, and to raise the standard of teaching in girls' schools generally. The company now has thirty-four schools and seven thousand pupils. Eleven years later the Church Schools Company was founded; it now has twenty-five schools and two thousand pupils. Private enterprise had also done much towards establishing a better and more thorough system of education for girls. Miss Buss had been at work for several years, and her private school had proved itself to be so great a success that it served as a pioneer and model for the whole scheme of high schools. Miss Beale had also done much in working up the well-known college for girls at Cheltenham. Previous to these Professor Maurice had opened classes for girls at King's College, and, in conjunction with Charles Kingsley and others, founded Queen's College, which received a royal charter in 1848; and shortly afterwards Bedford College was opened. These two institutions gave perhaps the greatest impetus to the education of girls in England.

There were then two movements on foot:

- (1) That towards the higher education of women.
- (2) That towards the improvement of the secondary education of girls.

And it is interesting to notice that the convergence of these two movements was the means of showing the need of combination among duly qualified women.

Every year there was a large increase in the number of young women seeking educational work of a higher kind than had hitherto been offered or asked for. The deficiency of means of bringing them into contact with parents and head-mistresses was great, and entailed on the principals of the women's colleges much correspondence. The difficulty also on the part of the principals of keeping a full record of the movements of every student, after she left college, was even greater, so that the practical necessity arose of some kind of center where employers and those seeking work could be put into communication with each other. The University Association of Women Teachers was the practical outcome of all this. The primary object of the members thus banded together was to constitute a registry for teachers, worked by themselves. It was felt not only that the ordinary registers, carried on commercially for profit, charged the teachers too large a commission, but that its registry office could exert an influence that would improve the conditions under which its members took engagements, and that the strength gained by having a registry of their own would be a protection to teachers and would add dignity to their position professionally. But further, the functions of the Association were to associate, for their common interests and for the advancement of education, duly qualified university women engaged in the profession of teaching.

It provides : (a) Lecturers. (b) Teachers in public and private schools and families. (c) Examiners in schools.

To explain the word *duly* qualified women.

The Association is divided into *Ordinary Members*, classes A and B, the higher and the lower. Class A contains the names of those who have passed examinations of the highest grade, and whose scholarship alone entitles them to be placed under that head. The merits of the various university examinations were carefully considered and compared, and they were arranged accordingly. Thus, we place under the first head those who possess one of the following qualifications :

A certificate of having attained the standard of (a) the Cambridge tripos.

A certificate of having attained the standard of (b) the Oxford public examination in honors ; (c) the honor certificate of the Oxford examination for women ; (d) the London degree ; (e) the degree of the Victoria University (Manchester, Leeds, Liverpool) ; (f) the honors degree of the Royal University of Ireland.

In the second class (Class B) are placed the names of those who have taken the lower grade examinations : (a) the Cambridge ordinary degree ; (b) the higher local honor certificate ; (c) the intermediate or preliminary scientific M. B. examination of the University of London ; (d) the pass certificate of the Oxford examination for women.

And these must possess the further qualification of having resided three consecutive terms at Girton or Newnham College, Cambridge ; Somerville Hall, Lady Margaret Hall, St. Hugh's Hall, Oxford ; the Royal Holloway College ; Westfield or College Hall, London.

The "residential qualification" is a very important one, and by those who have enjoyed the privilege of residing in college it is considered to be a distinct disadvantage to any student, whether in Class A or B, to be without it. The close contact with women of various types and experiences, the toleration which this engenders, the diversity and similarity of interests and pursuits, all are invaluable helps to the development of character. There are virtues which seem almost created in some women through the opportunity now afforded them of a three years' seclusion in a university town, and an absorption in academic interests, which are making them into better, brighter, and more capable citizens, by widening their sympathies and bracing their intellects ; and which are slowly but surely enlarging the sphere of women's work and women's opportunities.

Besides the advantage to the individual of having resided, there is also the advantage

to the Association of having a guarantee as to the course of study she has pursued and the character she has borne—all the more desirable when there is not the guarantee afforded by the certificate of having passed one of the best examinations.

It is interesting to note that the University of Edinburgh is beginning to adopt, in this respect, the custom of the ancient English foundations, and is encouraging its students to go into residence and to enjoy the stimulating social influence of *college* as well as university life.

ASSOCIATESHIP.—Though, with a view to maintaining its character as a body of university women, the Association insists on the foregoing qualifications for ordinary members, yet the right is reserved to the committee, under very special circumstances, of admitting as *Associates* some efficient women teachers who, through residence abroad or some other cause, may have pursued some other course of study than that generally recognized by the committee.

PRESIDENTSHIP.—The Association is more than fortunate in having had as its president, from its commencement up to the time of her death, the late honored principal of Newnham College, Miss Clough. It was she who, after initiating, with others, the scheme for the opening of the senior local examination to girls, and, later, that of the North of England Council for Promoting the Higher Education of Women, after working on to the opening of the higher local examinations, and doing perhaps more than any other woman has done to give the impetus needed to woman's education, suggested the formation of the University Association of Women Teachers. From the beginning she showed her active sympathy with and appreciation of the work done by it in the most helpful of all ways—by giving her personal service and presiding at almost all its general meetings; by passing on notices of work received by her, and by recommending employers to apply to the registry branch for whatever kind of teaching they required. She was keenly alive to the various plans for furthering the interests of its members, and she looked also beyond the personal interests to that of education itself, to discover, with the better material at hand, the uses to which it could be put, not only for the benefit of the Association, but for that of the cause generally. She attached the greatest importance to the effect of university life and training on women teachers, and felt strongly the fact that as they had received the best education, they were the best fitted, as a whole, to have the charge of the secondary education of girls in their hands. She looked always to the wider operations of the work done by the Association, and held that some kind of supervision by women educated at the universities might do much to remedy the inefficiency of girls' schools.

The hope of gaining Miss Clough's approbation in any plan for the advancement of the aims and objects of the Association, and the confidence placed in the wise advice she gave, inspired its promoters with courage and confidence, and went far to insure its success.

Since February, 1892, the Association has been *without* a president. It was felt that it would be difficult to put any one in Miss Clough's place, and that the Association might well mark its sense of this by keeping the position vacant for a time.

THE COMMITTEE.—The affairs of the Association are administered by a committee of twelve, who willingly devote their time and thought to carrying on the work. This committee is as nearly as possible representative of the colleges which supply the membership, and it is also chosen as nearly as possible to represent, in due proportion, the elements in the teaching profession of which the Association is made up. Further, it is the duty of the committee, besides administering the affairs of the Association, to keep abreast of educational movements, and of legislative proposals affecting teachers (registration bills, secondary education bills, etc.); to examine and discover the best educational methods (those which obtain maximum efficiency with minimum expenditure of power), and, by giving proofs of the power and capacity of its members, to secure free-

dom of method for them in their work, and in every way to cherish the interests of members.

The committee endeavors also to keep up a high standard with regard to salaries for its members, so that they are maintained in health and freedom from anxiety, and work under the most favorable conditions.

The professional elements in the Association, which make up the total of four hundred and fifty-three members, are: twenty-five honorary members; twenty-one lecturers in the various colleges; fourteen head-mistresses in public schools; two hundred and fifty-four assistant mistresses in public schools; six head-mistresses in private schools; twenty-eight assistant mistresses in private schools; seventy-seven coaches; five university extension lecturers, or about to become such; six non-resident governesses; seventeen resident governesses—total, four hundred and fifty-three.

About twenty-five of the above have been through a regular course of training to become teachers. Besides, therefore, being a *bona fide* association of women teachers, it is claimed that it is also a representative body, and, as such, it is felt that members have grave responsibilities toward each other in making common cause where educational interests are concerned.

By *bona fide* we mean "professional" in the full and strict sense of the word. When the representative of the Association was giving evidence before the select committee in the House of Commons on the teachers' registration bills, the chairman, Sir Richard Temple, particularly asked whether the Association was composed of *bona fide* teachers, or merely of persons interested in education. It is satisfactory that the witness was able to declare it to be the former, as this gave far more weight to its opinion than would otherwise have been the case.

Lectures were given under the auspices of the U. A. W. T. in the first year of its existence.

The advisability of organizing a further scheme, on the lines of the university extension lectures, for offering to public and private schools: (a) Courses of lectures; (b) Courses of lessons, in special subjects, given after school hours by especially appointed, qualified lecturers, is under consideration.

TEACHERS IN PUBLIC AND PRIVATE SCHOOLS AND FAMILIES.

The object of the Association was not to make *money* but to provide *work for its members*, and the registry branch was to facilitate their obtaining the kind of educational work they were best qualified to do, and to enable parents and head-mistresses to communicate with teachers with a view to forming engagements. It is often forgotten, even by those who have belonged to the Association for a long time, that it is purely an educational body, and does not undertake to provide journalistic work, clerkships, or posts as librarians, and it is not easy to disabuse the public mind of the idea that it does not deal with the sale and transfer of schools and other purely commercial transactions. It was thought that the Association will have amply justified its existence, if, keeping strictly within the limits defined by its title, "University Association of Women Teachers," it develops to its utmost all that it legitimately can do as such.

Since the formation of the U. A. W. T., the Teachers' Guild and the Association of Assistant Mistresses have come into being, having more or less similar objects in view, but there is no other society which works on quite the same lines as it.

EXAMINERS IN SCHOOLS.—Though the U. A. W. T. was instituted, as said above, primarily to increase and impart knowledge by supplying teachers of every kind, it undertook, secondarily, the function of testing knowledge acquired, in order to promote, as far as in its power, sound learning and good education, and an *examination branch* was constituted for private schools, not examined by the Oxford and Cambridge board.

A well-considered standard was devised, and a certain amount of useful work has been done. It was, however, resolved, in order to keep up a high standard, to ask high fees, and this has probably acted as a deterrent, and limited the number of applications received for examiners. Test papers for private pupils are also set and corrected by accredited members, and from the number of this kind of applications it is to be inferred that private teachers are becoming more anxious to gauge in this way the amount of learning they have been able to impart to their pupils.

Beyond the various facilities offered by the Association to its members for obtaining work and discussing subjects of more or less general interest, the need was felt, especially by members abroad, or by those whom distance prevents attending the meetings, of a channel through which members could express their views, detail their experiences, and make suggestions; the result was the establishment of a "*Journal*," the scope of which was to include notes and articles on all matters relating to women's education and the teaching profession, also on work and movements of other kinds in which *university* women are taking part, or by which they are in any way affected. The correspondence and discussions on debatable points are perhaps the most valuable feature of the journal. The area of the Association is wide, comprising, as it does, Europe, Asia, Africa, America, and Australasia; this naturally gives diversity of interests and width of experience.

A *Home Teaching Scheme* was suggested by the late president, in consequence of the strong feeling in England, surviving in a considerable class of parents, against the public-school system for girls. The training and stimulus of having teachers who have made the subject their special object of study was felt to be so valuable that the Association undertakes to recommend, to parents, teachers in various subjects, from whom a selection is made. They again divide between them the instruction of boys and girls in the same families. It is hoped by this means to secure accuracy and clearness in every branch of knowledge, and a more organized and developed system of private teaching.

Besides the annual meetings for the usual purposes of presenting the report of the work done during the year, other meetings are held and papers read on points of special interest to members. Thus, at the time the two bills for the registration of teachers were before Parliament, that subject was taken for discussion, and points given to the witness delegated by the Association to give evidence in the House on the bill, and examination has lately been made of the clauses in the Secondary Education bill. Mrs. Fawcett has spoken on the utility of association, and Miss C. E. Collet has laid before members the salary question, from the trades union point of view, when it was considered, on the whole, that the great difference in the rate of efficiency made it impossible to do more than fix a minimum, and that it would be unsatisfactory to take that step and go no further.

Part of the most valuable work done by the Association, representing, as it does, not one particular body, but all kinds of women teachers, is in the direction of widening the interests of its members and helping them to avoid the old danger of teachers becoming absorbed in the narrow world of their individual work; of affording, by means of the above discussions and similar ones, opportunities of mutual education, not only for their own benefit but for the benefit of those whom they teach and of education generally.

One word on the function of the Association as mediating between schools and the university. Beyond the hope of helping to bring order and consistency into the general scheme of girls' education there was the further one that the U.A.W.T. form the much-needed link between girls' schools and the university. In England the universities are the most ancient part of the educational system, while girls' high schools are comparatively but a growth of yesterday. In England also, except in the lowest grade of schools, it has always been to the universities and not to the state that educationalists have looked for a standard and for guidance in the education of boys and youths; and those interested

in girls' and women's education believe that the only hope of enabling them to reach and maintain a standard now markedly inferior to that of their brothers, is in keeping girls' schools within the influence of university life and thought.

ELEMENTARY EDUCATION IN ENGLAND.

BY ROSAMOND DAVENPORT-HILL.*

IN the first chapter of the Report of the Royal Commission on Education, 1888, are the following words : " The history of public elementary education in England is no exception to the law which seems to characterize the growth of many of our national institutions, in that it originated in the convictions and efforts of individuals or private bodies, and only when it appeared to have outgrown the means or the powers of the original promoters, did the state step in to gather up their work, and to place it on the basis of a national institution." †

In the early part of this century popular education was in a deplorable condition. ‡ " In England good schools were few and far between, the schoolhouses were often squalid, with miserable furniture, few books, and scarcely any other school appliances. The attendance of the children was irregular, their attainments were wretched. The teachers were often ignorant adventurers, who had adopted the profession when they had proved their utter incompetency for any other calling. while those who possessed any knowledge were ignorant of good methods of imparting it. Riot and disorder were kept under only by the most savage discipline."

Two educational associations—the British and Foreign Society, and the National Society, were founded, the first in 1808, and the second in 1811, which gave a great impetus to education.

In 1816 a committee of the House of Commons, presided over by Henry Brougham, reported that " they had found reason to conclude that a very large number of poor children were wholly without the means of instruction." § And though, in another report of the same committee, it was for the first time publicly stated that the education of the people was a matter in which the state had a vital concern, || the government did not until 1839 really step in to systematize it.

In 1839 a committee of the Privy Council, entitled the Committee of Council on Education, was called into existence " to superintend the application of any sums voted by Parliament for the purpose of promoting public education." ¶ Inspectors of schools were appointed, whose duty it was to assist, not to control, the schools. In the same year the grant was increased to thirty thousand pounds, and from that time it has almost continuously grown year by year, until, in 1891, it had reached the enormous amount of four million one hundred thousand pounds, including grants to colleges and cost of administration, nor does it show any signs of approaching its maximum.

In 1839 the first college for the training of teachers was founded by voluntary effort.

* In presenting my paper on Elementary Education in England, I ought to mention that my experience has almost entirely been gathered under the London School Board, of which body I have been a member for the last thirteen years. I have had very little to do with any other schools since the passing of the Education Act in 1870. But as all schools inspected by the Education Department are carried on under the same rules, there is a certain similarity between board schools and non-board, *i.e.*, voluntary schools.

† Report of Royal Commissioners on Elementary Education, 1888.

‡ The New Code, 1876. Gibbs and Edwards.

§ Report of Royal Commissioners on Elementary Education, 1888.

|| *Ibid.*

¶ *Ibid.*

Others soon followed, and between 1839 and 1846 several were established. It is curious that, while it was considered necessary to train teachers for primary schools in the art of teaching, more than half a century ago, such training is not even now believed to be essential for those teachers who give instruction in secondary and higher grade schools, who too often are compelled to acquire their power of imparting knowledge by trying experiments on their unfortunate pupils.

The pupil-teacher system was also introduced as a cheap method of obtaining competent instructors. These young persons of both sexes, who must have attained the age of thirteen years, already possessing some education, were apprenticed for five years to the head teacher of their school, and spent their time in acquiring more knowledge, but chiefly in teaching, under the supervision of their head master or mistress. Many of them afterwards finished their training in the colleges, which, though founded by voluntary effort, were largely assisted by state aid.*

These measures systematized and assisted voluntary effort, thus largely increasing and improving popular education; but as the state aid was only given in furtherance of local effort, it left untouched those parts of the country in which the people either could not or would not help themselves. The need for further extension and improvement was shown by the report of the educational conference, held to consider "the question of the imperfect attendance of children at school, and their early removal therefrom," under the presidency of the Prince Consort, in 1857. This report states that of the two millions of children at school, forty-two per cent. remained at school for less than a year, while only four per cent. remained for more than five years and less than six.† The facts brought to light by the conference led to the appointment of a royal commission in 1858, called, from its president, "The Duke of Newcastle's Commission," to inquire into the state of popular education.

The report of the Royal Commission presented in 1861 showed that "One in eight of the population was at some time in some school or other; that somewhat more than three-fifths of the two and a half millions of children of school age were not in public schools of any sort; and that of pupils in inspected schools not more than one-fourth were receiving a good education, the instruction given being too much adapted to the elder scholars to the neglect of the younger ones."‡

The condition of popular education brought to light in this report led to a great change in the administration of the government grants. The Revised Code which came into force in 1862, demanded only three Rs—Reading, 'Riting, and 'Rithmetic. Class subjects, such as geography and grammar, and specific subjects, such as French, mechanics, etc., were included in later codes.

Until 1862 it had been the custom of Her Majesty's Inspectors to examine schools in classes. But from that date, under the Revised Code, every scholar underwent an individual examination in successive standards of knowledge, and the grant largely depended on the scholar's success in passing these examinations; while, to encourage managers to induce the children to come more regularly to school, a grant was given on average attendance. Individual examination insured a more thorough drilling in the three Rs, three subjects in which the scholars earned grants on individual passes, but on the other hand, it led to the children being crammed rather than educated. "The children have

* In 1881 the school board for London withdrew their pupil-teachers from the instruction of the head teacher, and placed them in schools specially established for their instruction. The pupil-teachers from that year have divided their time between the schools to which they are apprenticed, learning practically the art of teaching, and the pupil-teachers' schools, increasing their stock of knowledge. The period of apprenticeship has been lately shortened from five to four years. A considerable portion of the pupil-teachers still finish their education in training colleges.

† Report of Educational Conference, 1857.

‡ Report of Royal Commissioners, 1888.

been well prepared," is a phrase not infrequently met with in Her Majesty's Inspectors' reports on schools, *i. e.*, for examination, but not for the battle of life. It is a common saying that children, after having left school for a year or two, forget the facts with which they have been crammed, and could not again pass the examination by which they formerly earned grants for their school. This Code was very unpopular with school authorities, but nevertheless remained in full force until 1890, when more liberty in classification was allowed. Teachers in London have availed themselves of this permission to a considerable extent, but whether this be the case in the provinces I am unable to say.

But these measures I have rapidly described did not carry education to the places which most needed it, where the destitution of the people, both moral and physical, precluded the hope that they could share in any effort towards the education of their children. Ragged schools had indeed done good service in giving to the poorest and most neglected some amount of instruction, but the standard to which they could attain very rarely entitled their managers to any grant from the Educational Department; they were obliged to rely entirely on voluntary contributions, and the work was far too gigantic for philanthropy unaided by the State to accomplish.*

Moreover it became plain that England lagged behind some other countries in the matter of education, and she might in consequence lose her supremacy in manufactures. The passing of the Representation of the People's Act in 1867, extended the Parliamentary franchise to a less educated and very large class of the community. Education was essential to enable this class to exercise their newly attained power with safety to the country. All these circumstances combined, led to the passing of the Educational Act of 1870, introduced and carried through the House of Commons by W. E. Forster, with whose name it will ever remain associated. The ideal of the Act is "A school place for every child, and every child in its school place."

The Act created school boards, bodies of men and women elected in different parts of the country by the local ratepayers. Attendance at school, between the ages of five and fourteen, could be made compulsory, and, when so made, boards were given the power of summoning parents who infringed the law, before a magistrate authorized to impose a fine for this offense. The enforcement of compulsion was at first left to the discretion of each school board, but by further amending acts, attendance at school has been made compulsory. The boards are responsible for the attendance of pupils, not only at schools under their own management, but at every elementary school in their respective districts, whether entirely supported by voluntary contributions and free to scholars, or partly supported by fees, or whether beyond these two sources of income, supplemented by government grants. Such schools are known as voluntary schools, in contradistinction to those belonging to the boards.

At the time of the passing of the Education Act there were 8,381 voluntary schools in England and Wales receiving grants; 6,382 carried on by members of the Church of England, 1,549 belonging to the various bodies of nonconformists, and 450 to the Roman Catholics. Up to the end of 1891, twenty-one years after the creation of school boards, there were 14,816 voluntary, and only 4,779 board schools, a proof that in England and Wales the creation of the latter has not, as it was feared would happen, destroyed in the present day the zeal and activity which our ancestors displayed in their efforts to spread education throughout the land.

Compulsory attendance at school was a new feature in English law, and could only be gradually introduced. It is now more or less strictly enforced all over the country, and has received on the whole the cheerful acquiescence of the people. The school boards

* As far as I know, the ragged school in St James's Back, Bristol, founded in 1846 chiefly by the efforts of Mary Carpenter, was the only one in England which was able to earn a grant.

draw up their own by-laws, subsequently sanctioned by the Educational Department, fixing the standard both of half-time attendance, and exemption from school, which vary in different parts of the country.

After the passing of the Act of 1870, the Educational Department retained its former powers over voluntary schools, and was by the Act endowed with the same in regard to board schools; and in addition it exercises considerable control over school boards.

The Education Act left managers entirely free to give or not to give religious instruction in their schools. Under school boards such teaching must be wholly undenominational. Voluntary managers, as a matter of course, give instruction according to their own views. In all schools, both board and voluntary, "the conscience clause" which permits parents to withdraw their children from religious instruction must be strictly obeyed, but I believe they rarely avail themselves of this permission.

School boards are empowered to establish evening classes. The scholars must, if under fourteen years of age, have passed the prescribed standard of exemption in the day school. Beyond that age they can of course attend without having passed any standard at all, but should they be more than twenty-one, of whom there is a considerable number attending these classes, they do not earn any grant from the government. I believe evening classes are in active operation all over the country. The curriculum is much the same as in the day school, except that all the scholars who have passed the fourth standard need not be again examined in the three Rs, but may devote their time to class and specific subjects, such as geography, history, French, drawing, mechanics, manual training, cookery, etc.

Our schools are generally divided into three departments, infants (both sexes), boys and girls, but there are many in which boys and girls receive their instruction together. These are called mixed schools. There are a few attached to some schools to which children of both sexes are drafted when they quit the infants' department, and remain together until having passed, in some schools the second, in others the third standard, they go to the senior boys' and girls' departments. These are called junior mixed. There are also some schools called higher grade, in which the upper standards are divided into smaller classes than in the ordinary schools where the pupils study a greater variety of "specific" subjects.

In 1891 the Free Education Act passed, permitting managers of schools, both board and voluntary, to abolish fees altogether, and offering in their stead a grant of ten shillings per head on average attendance. This act came into force on September 1st, 1891, and up to the present date no reports have yet been issued by the Department on the extent to which it has been adopted.

Improvement in the curriculum of elementary education has made great strides during the last few years. The almost exclusively intellectual training boys used to receive after quitting the infant department created in them a dislike to hard labor; the comparatively well-to-do desired to become clerks, when it would have been better for them to become high-class artisans, while those who from family circumstances had been obliged to leave school at an early age could become little else than errand-boys. It was therefore essential to encourage a taste for skilled hand labor.* With this end it was determined that the hand and the eye should be trained. The Education Department consequently introduced subjects into their codes which supply such training.

The lads who have been first taught to be skillful in the cutting out of paper, and the making of articles in cardboard, enter the manual training class, where they learn the use of tools by making different articles in wood. This scheme, beginning with paper-work and leading to wood-work, was formulated and introduced into the schools of the board by our senior inspector, Mr. George Ricks.

* Girls fared in this respect better than boys, they had always their needlework; and cooking has been a subject of instruction in many schools for several years.

In all departments physical exercises, based on scientific principles, are an essential part of our school training, for as education is defined to be the harmonious development of all the faculties, bodily and mental, with which the child is endowed, the body demands equal training with the mind in due order, and in just proportion.

Before sending a lad to the truant school, which is a special boarding-school, it must be ascertained whether or not the parents have done their duty in the matter. The parents must not only have sent him to school, but must, as far as lies in their power, have secured his attendance there. If the child be absent several times during the week, it is assumed that they have failed, and the father is summoned by the school board before the magistrate, who, after hearing both sides, either dismisses the case or inflicts a fine on the parents according to his discretion. If the fine be not paid, the law directs that such portion of his goods shall be sold as will cover the amount of the fine, or that he be sent to prison for a term of days in default. Should the child continue to offend, the parent is again summoned, and the course, already described, repeated. But if these proceedings fail in obtaining regular attendance, a fresh summons is issued, and the boy is ordered by the magistrate to attend a certain school chosen by the parents, and a month's grace is given him in which to obey the order. If he now fail, the magistrate commits him to a truant school, where his day is divided between studying and working with his hands, time being allowed for exercise and rest, but very little for recreation. He may be detained until he reach the age of fourteen, when the jurisdiction of the school board ceases. But, in fact, the boy only remains until, by his orderly behavior, he gives promise of attending the day-school regularly, should he be allowed to return home; the period of detention usually lasting from nine to twelve weeks. He is then licensed out, and if he attend school regularly for nine months he is unconditionally discharged. During the probationary period he is carefully watched. Should he again play truant his license is revoked, and he is brought back to the truant school for a second period of detention.

When these institutions were first founded, about the year 1877, the boys belonged to a better class than they do now. The truants who recall Shakespere's lad, "with shining morning face creeping unwillingly to school," will always exist, but they are easy to deal with compared with the lowest grade, to which the operation of the law has now penetrated. These unfortunate lads become truants through the utter neglect, cruelty, or corrupt influence of their parents.

NATIONAL EDUCATION IN SCOTLAND.

BY FLORA C. STEVENSON, MEMBER OF THE EDINBURGH SCHOOL BOARD.

"WHEREAS, it is desirable to amend and extend the provisions of the law of Scotland on the subject of education in such manner that the means of procuring efficient education for their children may be furnished and made available to the whole people of Scotland, be it enacted."

These words, taken from the Preamble of the Education Act, which became law in 1872, indicate the wide scope of the statute which regulates public education in Scotland. Unlike the English Act passed in 1870, which deals with elementary education alone, the Scottish Act makes provision for a graded system of education comprising infant, elementary, and higher class schools.

Based on the parish school system, the Act preserves many of the old traditions of national education in Scotland. Under the Act the ultimate control of the national system of education rests with a governmental department, called the Scottish Educa-

tion Department of the Privy Council, who are responsible for the administration of the moneys voted annually by Parliament for public education. The parliamentary grant is distributed according to the regulations laid down in a code, which determines the rates and the conditions of the grant.

The local control of public education rests with the popularly elected school boards in every parish and burgh. The school boards are elected triennially, and consist of from five to fifteen members, according to the population of the school district which they represent. The electorate consists of all owners and occupiers of lands and heritages of the annual value of four pounds and upwards. No property or residential qualification is required for candidates for election, and men and women are equally eligible. On many of the Scottish school boards women have been elected and have rendered valuable service in the cause of education.

The duties of school boards are to provide the public school accommodation necessary for the locality, to manage all rate-aided schools, and higher class schools falling under their jurisdiction in terms of the Act, to levy the school rate, and generally to administer the provision of the Act according to the regulations of the education code.

Under the Act of 1872, for the first time in Scotland, education was made compulsory, and one of the most important duties of school boards is to enforce the compulsory provisions of the Act. Every parent is bound to provide "elementary education in reading, writing, and arithmetic" for the children, and failing to do so may be prosecuted, and is liable to the penalty of a fine not exceeding twenty shillings (£1), or to imprisonment not exceeding fourteen days. The effect of compulsion has been very largely to increase the enrolment and attendance at all state-aided schools in the country.

In accordance with the traditions of education in Scotland, religious instruction including the teaching of the Bible and the Westminster Shorter Catechism has always been given in the parish schools. This tradition was respected by the Act of 1872, and the question as to whether or not religious instruction, "according to use and wont," was to be given in the public schools (under the restrictions of a conscience clause) was left to be decided by the school boards. The first school board election practically settled the question, and for twenty years a majority of members have been returned who have continued this system of religious instruction in the schools under their management.

Outside, however, of the school board system the Act made provision, in those parts of the country where there is a sufficiently numerous population belonging to the Roman Catholic and Episcopal Churches, for the continuance and establishment of schools under the management of these churches. The denominational schools are state-aided, receiving Parliamentary grants on the same conditions as the public schools, but *receiving no support from the local school rate*. Since the passing of the Act the number of Roman Catholic and Episcopal schools has largely increased, while the number of schools belonging to other denominations has become very small, the religious instruction given in the board schools being identical with the teaching of the various branches of the Presbyterian Church.

Another tradition of Scottish schools continued in the public education of this time is the system of mixed schools, boys and girls being taught together in the same classrooms. The regulations of the department require that in schools of the large towns, boys and girls must be kept separate in the passages and staircases, and in the playgrounds. In the small country schools the old natural arrangement continues as in the old days.

The primary conditions of grant are, the attendance and proficiency of the scholars, the qualifications of the teachers, and the state of the school buildings. Further grants are made in respect of various class subjects, and specific subjects, and a special grant is given to schools having a separate infant department under a specially qualified infants' mistress. The school age for children in Scotland, during which compulsory

attendance at school may be enforced, is from five to fourteen. Two of these years are spent in the infant school. No part of the educational system in Scotland has made such advances during the last twenty years as this. In Edinburgh, especially, the infant schools have reached a very high state of efficiency.

In addition to reading, writing, and arithmetic (proficiency in which according to a fixed standard is required for exemption from school attendance), the subjects of instruction in the juvenile school are :—English geography, history, needlework (for girls), and elementary science. They are known as “class subjects,” but not more than three of them can be taken for examination. In the Gaelic-speaking districts Gaelic may be taken as a class subject. The teaching of drawing is compulsory in all schools for boys, and may be taken by girls.

The higher subjects of instruction are known as specific. It is here that the ordinary elementary school work extends into secondary education. The subjects are :—Mathematics, Latin, Greek, French, German, principles of agriculture (for boys), and domestic economy including practical cookery and laundry work (for girls).

In the larger towns, especially in Edinburgh, attention is now paid to the physical training of the children in the board schools. In all of the schools under the Edinburgh Board gymnastic instruction is given by specially qualified teachers, and some of the newer schools are provided with large swimming baths, where swimming is taught to both boys and girls.

Another subject which has recently been added to the school curriculum is manual instruction in carpentry, and clay modelling.

The advantages of this extended education are now practically free to all Scottish children. Recent legislation has put at the disposal of the Government certain moneys which have been devoted to the relief from school fees. Free education was practically given to Scotland under a Local Taxation Act in 1890, which made education free up to the standard of exemption, but further legislation has provided for free education for all children up to the age of fourteen, in all state-aided schools. At present a proposal is under the consideration of Parliament for devoting additional moneys to the promotion and better organization of secondary education throughout the country.

Under a recent Act the educational endowments of the country have been revised and adapted to the necessities and conditions of the present time. In Aberdeenshire and the northern counties, under the Dick Bequest, stimulus and encouragement have been given to secondary education in the public schools, by grants to schoolmasters who successfully prepare scholars for higher examinations.

In Glasgow the funds of the Hutcheson Trust are also devoted to the encouragement of secondary education. In Edinburgh, under George Harriot's Trust, which is the wealthiest endowment in the country, an annual income of from thirty to forty thousand pounds is spent in promoting technical and secondary education and in providing university-bursaries for men and women. The provisions of the scheme for the administration of the trust that affect the public schools are the application of an annual sum of two thousand pounds to be given in school bursaries to pupils (boys and girls) attending the state-aided schools. The bursaries which are of the value of five pounds, ten pounds, and fifteen pounds, yearly, and tenable for two years, are awarded on the results of examination, and in addition to these, five bursaries of thirty pounds yearly value are offered annually to boys, to be tenable at the Royal High School in Edinburgh for five years. The Merchant Company of Edinburgh have devoted their large educational endowments to the establishment and maintenance of secondary schools for boys and for girls. These are fee-paying schools, but there are many bursaries open for competition to the pupils in attendance at the schools.

In addition to the provision made for education in public day schools, a great deal has been done in recent years to develop the system of evening schools. They are also

state-aided, and are supported out of the local school rate. They are intended as continuation schools for boys and girls whose circumstances necessitated their leaving the day school after passing the exemption standard, and also for providing for young men and young women secondary and technical instruction.

The following account of the schools carried on by the Ladies' Highland Association is given by Miss Rainy, the Honorary Secretary, who was for some years a distinguished member of the Edinburgh School Board.

"In some parts of Scotland education is attended with peculiar difficulties. The counties of Ross, Inverness, and Argyre include about one hundred inhabited islands, some of which contain only a few families; and others whose population is greater, as well as the west coast of the mainland from Cape Wrath to the Mull of Cantyre, are so intersected by arms of the sea, pathless morasses and dangerous torrents, that attendance at school is often perilous if not impossible. Add to this the poverty of the people, and the fact that English is to them a foreign tongue—their vernacular being Gaelic—and you have a combination of circumstances singularly adverse to the enforcement of red tape arrangements.

The number of separate schools required for a population so scattered entails heavy expenditure for buildings, and the difficulty of enforcing regular attendance, or of bringing Gaelic-speaking children up to the required standards in English, makes the earning of the Parliamentary grant a great difficulty. The local school rate has in some places been as high as six and seven shillings in the pound of rental, and although exceptional grants have been given by the department, it has been found necessary to supplement the public school system by private enterprise.

The Ladies' Highland Association, founded in 1850, has planted schools in the most outlandish and destitute spots, employing as teachers Gaelic-speaking young men who are allowed to come to college two winters out of three, leaving substitutes in their place; and who are willing on this account to endure hardships which more permanent teachers would shrink from.

It has not been possible within the limits allowed for this paper to do more than give a very general outline of the Scottish national system of education. All that has been attempted is to give an idea of the educational legislation regulating the system of education, and the means by which the provisions of the Education Act are carried out.

WOMEN STUDENTS IN THE SCOTTISH UNIVERSITIES.

BY MISS LOUISA STEVENSON, HONORARY SECRETARY OF THE EDINBURGH ASSOCIATION FOR THE UNIVERSITY EDUCATION OF WOMEN.

On the 22d of February, 1892, the Royal Commissioners, acting under the Universities (Scotland) Act of 1889, issued an ordinance under their seal which deeply affected the educational interests of Scottish women. This commission, consisting of sixteen members, with the Hon. Lord Kinnear, one of the senators of the College of Justice, as chairman, was appointed for the purpose of making laws for the better government of the four Scottish universities of Edinburgh, Glasgow, Aberdeen, and St. Andrews. Essentially democratic as they in other respects have ever been, not one of these universities possessed the legal right, when the commission was appointed, to give degrees in arts or science, or teaching qualifying for such degrees, to any woman, however gifted. Under the act this disability was removed. The legislature gave special powers to the commissioners to enable each university "to admit women to graduation in one or more faculties, and to provide for their instruction." These

powers, it will be noted, were *enabling* and not compulsory. It was made competent to each university court, after consultation with the senators, "to make provision within the university for the instruction of women in any of the subjects taught within the university, either by admitting them to the ordinary classes, or by instituting separate classes for their instruction." The conditions for graduation within any faculty to which women were admitted were made practically the same for women as for men.

It was made the duty of any court exercising the powers conferred by the ordinance to make regulations for the use by women of such libraries and museums as were open to all matriculated students. An important clause was also inserted by which it was made competent to any university court to admit women to graduation in arts without further examination who were registered in the books of the university as having regularly attended classes conducted by the professors of the university or by their assistants in the seven subjects hitherto required for the ordinary degree of Master of Arts—Latin, Greek, mathematics, natural philosophy, logic and metaphysics, moral philosophy, and English literature—and as having, after examination by the university examiner for the said degree, in all these subjects obtained the pass certificate in arts of the university. This certificate was instituted in 1874, at the instance of the Edinburgh Association for the University Education of Women, who as far back as 1869 made arrangements with individual professors and lecturers to coöperate with them in opening classes for women outside of the university in rooms provided by and on the responsibility of the association. This certificate formed a valuable link with the university, and was granted to any student of the association who passed, in any three or more science and arts subjects, examinations up to the standard for the M.A. degree. The work done was of good old-fashioned university gold, and the commissioners authorized the authorities to stamp it in the case of all students who had passed in the seven M.A. subjects.

There was great rejoicing amongst the friends and promoters of the university education of women when, on June 28th, the ordinance, after lying for three months on the table of the House of Commons, received the Queen's assent and became law. Much eager interest was at the same time felt as to what action the various universities would take, now that their legal disabilities were removed.

To the credit of Scotland, each of the four universities resolved to avail itself without delay of its newly acquired powers. Edinburgh, St. Andrews, and Aberdeen have opened their science and arts classes to women students who attend the professors' lectures along with the men, and the conjoint teaching given in University College, Dundee, qualifies for the M.A. degree of St. Andrews. Glasgow has incorporated Queen Margaret College as an integral part of its university system, and appointed professors and lecturers to give separate courses of instruction to its women students. The classes taught are university classes, and the women students are students of the university. The two systems of conjoint and separate teaching have thus been inaugurated. Time will show which is productive of the best results,

It may not be uninteresting to record that at the first meeting of the executive committee of the Edinburgh Association for the University Education of Women, held at the close of the winter session, the following resolution was unanimously passed: "This committee record their entire satisfaction with the working of the conjoint system of teaching in the faculties of arts and science during the session 1892-93; and their continued belief, after this experience, that under no other system could women students receive in Edinburgh University instruction equal to that provided for men." This opinion, which was afterward unanimously confirmed by the council of the association, is of special value as coming from a body of men and women—professional and lay—who for a quarter of a century have taken practical interest in the question of the university education of women. Women students are to be congratulated on the new

regulations regarding the subjects qualifying for the M.A. degree, which took place contemporaneously with their admission to the universities.

In the old days seven subjects were inexorably fixed for that degree ; under the new system the subjects qualifying for graduation have been raised to twenty-seven, although certain of the original seven are still compulsory in following any one of the three paths leading up to the M.A. degree. History or a modern language, for example, may be taken instead of English literature ; and a selection may be made between natural philosophy and mathematics, and between logic and moral philosophy ; but candidates for graduation must attend seven full courses of lectures and pass examinations on the subjects studied. They must also pass a preliminary examination in (1) English, (2) Latin or Greek, (3) Mathematics, (4) *one* of Latin or Greek, if not already taken, French, German, Italian, dynamics. Students not intending to graduate are not required to pass this preliminary examination.

Much excellent work was done by the Scottish women students in this the first year of their admission to the universities. In Edinburgh honors were gained by them in almost every subject studied, and they took or shared first and second prizes in natural philosophy, Greek, English literature, logic and mental philosophy, moral philosophy, education and music. At St. Andrews women gained the first and the second places respectively in Roman history and in English literature. As time goes on, it is hoped that an ever-increasing number will matriculate in all the universities.

It is pleasant to end this paper by recording that on the 13th of April, 1893, the senators and the university court of Edinburgh, acting under the powers already mentioned, admitted to graduation eight fully qualified women students, who, wearing full academic dress, were "capped" by Principal Sir William Muir, K.C.S.I., vice-chancellor of the university, for the degree of Master of Arts, amidst the enthusiastic applause of professors, students, and an enormous gathering of the general public. The event was a historic one, and the Scottish universities are now free from the reproach of having no women amongst their graduates. One of the eight, Miss Lillias Maitland, passed extra examinations and graduated with first-class philosophical honors. The thanks of all Scottish women are due to the Royal Commissioners and to the members of the university court who made such rights and privileges possible.

CONVENT EDUCATION.

BY F. M. L., PRINCIPAL OF A TRAINING-COLLEGE.

I HAVE been asked by the Sub-committee on Women's Work to contribute a paper on convent schools, or the educational work carried on by the Catholic Church in the United Kingdom ; and I propose briefly to review that work in two classes of schools : (a) Primary or public elementary (in Ireland, national) schools ; (b) secondary, including day-schools and upper-class boarding-schools.

The communities occupying themselves with education in the British Isles may be classed as follows :

(1) Those teaching the poor only, as Sisters of Charity and of Mercy, the Presentation Nuns, the Sisters of St. Paul, etc.

(2) Those teaching the upper classes chiefly, as the Ladies of the Sacred Heart, the Benedictines and Augustinians, the Assumption Nuns, etc.

(3) Those devoting themselves to the instruction of all classes, as the Ursulines, Dominicans, Franciscans, the Sisters of Notre Dame, the Faithful Companions, the Loretto Nuns, the Sisters of the Holy Child, and many others.

Primary Schools.—In no department has the work done by nuns been so extensive or so successful as in the primary schools for the laboring classes. The vast majority of the Catholic public elementary schools in Great Britain, and most of the Roman Catholic national schools in Ireland, are taught by "Sisters." The number of communities thus occupied in England and Scotland is three hundred and sixty-six; in Ireland the number is considerably greater. In some of the large towns each convent takes charge of a whole group of schools. Thus in Liverpool, one order, the Sisters of Notre Dame, send their Sisters to twenty different schools.

The work done in the public elementary schools of Great Britain is very carefully tested by periodical inspection and examination on the part of the state, and though "payment on results" is no longer the absolute rule, the grants of the Education Department are not issued without full evidence of intelligent and successful teaching. The infants' schools have special attention paid to them, and kindergarten methods are universally adopted. In the girls' and mixed schools, the children learn, in addition to the "three Rs," grammar, geography, history, and elementary physical science. Drawing is compulsory for boys, while the girls have lessons in cookery and domestic economy.

In Great Britain, since 1891, most of the public elementary schools have been free. In what are called "higher grade schools," in which the teaching is carried further and the curriculum is somewhat wider, a fee of ninepence per week may be charged without forfeiting the government grant. The programme of studies is fixed by the state and is purely secular; but in all Roman Catholic schools a special time is set apart for religious instruction, and the nuns go in largely for that personal interest in and intercourse with their pupils which leave so indelible an impression on their after lives. In some large towns the Sisters take charge of continuation and evening classes, where they have a precious opportunity of coming in contact with the girls who, at fourteen or fifteen years of age, have ceased to attend the day-school, and are now in greater need than ever of the influence which guarded their childhood.

It should be noted that in all the educational institutions subsidized by the state the teachers are required to be certificated. For this purpose the nuns willingly present themselves at the public examinations—three in number—which they are obliged to pass in order to gain the diploma of the Education Department.

A striking feature in the English and Scottish schools, especially those under nuns, is their staff of young apprenticed pupil-teachers going through a double course of study and of practice (for education is an *art* as well as a science), living in some cases in the convent under the eye of their mistresses, or else attending the central classes where the pupil-teachers of a whole district assemble in the evening for their lessons. The complement of the pupil-teacher system is the normal college, with its two or three years' course of training. Three of these colleges are superintended and taught by religious communities, viz.: Liverpool, under the Sisters of Notre Dame, founded in 1856; Wandsworth, near London, under the Ladies of the Sacred Heart; and Baggot Street, Dublin, under the Sisters of Mercy. A fourth training-college is about to commence under nuns in Glasgow.

The success of the Catholic training-colleges has been very marked, and the Sisters conducting them have held their own with some of the best institutions in the country. Her Majesty's inspector, the Rev. Mr. Warburton, a Canon of the Church of England, who visited the Catholic training-colleges for several years officially, said: "I cannot express too strongly my admiration of the work done here. If a foreigner visiting England were to desire to see one of our institutions, I should direct him to one of the Roman Catholic training-colleges." The pupil-teachers trained in the preparatory classes held at Liverpool have invariably taken high places at the entrance examination, and twice one of their number has headed the scholarship list, after competing with some thousands of pupil-teachers from the schools of England and Wales.

Roman Catholic Secondary Schools.—These may be divided into day-schools, high and middle, and boarding-schools. They are nearly all in the hands of nuns, who in some instances seek the assistance of lay governesses. A new departure was made some year ago in the upper-class day-schools, and in some of the convent boarding-schools, by entering the pupils for examinations conducted by public examining bodies. Candidates were prepared and sent in for the university local (English) examinations, and for the intermediate and university (Irish) examinations. Pupils of the Ursulines, the Dominicans, the Sisters of Notre Dame, and the Faithful Companions have distinguished themselves at the "locals" of the Universities of Oxford, Cambridge, and Edinburgh; while from three of the Notre Dame convents pupils have passed the examination for the L.L.A. diploma at the University of St. Andrews. In Ireland the convent schools have won even greater laurels at the public intermediate examinations.

The first place in all Ireland was taken by a pupil of the Loretto nuns; the same place was reached twice by pupils of the Ursulines. Both these communities sent in a number of candidates to the matriculation examinations of the Dublin University, and several of them reached the honors division.

On the other hand, it must be owned that some excellent schools hold aloof from public examinations, for reasons which one can respect even if one cannot agree with them. Public opinion will probably be brought to bear on this point, when the Commission on Secondary Education has presented its report to the British government, and when the proposed bill is passed by the legislature. If the time comes when all teachers will have to be registered, and to produce credentials for their fitness for the office, it will be necessary for Catholics to have some institution corresponding to the colleges for women that have arisen at Oxford and Cambridge. If we cannot have a Girton or a Newnham, we may perhaps aspire to an institution for the higher education of women and for training governesses, such as the Cambridge College for Teachers, which is doing such good work under Miss Hughes. The Loretto Sisters, who are eminently fitted for the task, have long contemplated founding something corresponding to the Alexandra College for Women in Dublin.

The apathy of parents is a great obstacle to educational progress in upper-class Catholic schools. In general they do not appreciate higher education for girls, and with very few exceptions they cry down every effort made to raise the standard of their daughters' studies. Fathers object to pay the fees of examinations, and even the cost of books. Mothers have an instinctive dread of over-pressure, and beg that their children may be spared all continuous mental exertion, under the belief that it is injurious to health. This is very discouraging to those who would like to give to Catholic girls the same advantages enjoyed by others.

In our convent schools there is sometimes another drawback, viz.: the lack of the "skilled workman" element amongst their teachers. Our sisterhoods have brought to the task refinement, gentleness, patience, and all the devotedness which is born of a religious life and a religious atmosphere. They succeed admirably in infusing a high moral and religious tone and a spirit of piety and unselfishness into their pupils; and if the girls who leave our convent schools could find something to work for when they return to their homes, some object for their lives a little higher than dress, visiting, and amusements, we might have a loftier standard of intellectual and social life than at present exists amongst us. To render lives useful and "worth living," there should be some preparation in school for carrying out pursuits and avocations for which tastes should have been previously created and openings should be subsequently made.

Without speaking of occupations which may become lucrative, there might be ways of fostering a *love for the poor* and a sympathy with little children, or with girls of a lower social scale, which would result in useful personal intercourse, and encouragement given to Sunday-schools, recreative or instructive evening classes, guild meetings,

etc.; a love for *home and home duties*, by practical acquaintance with sick-nursing, cookery, and plain needlework; a love of *study and self-improvement*, which would enable girls to fit themselves to become teachers either in private life or in schools; a love of art which would lead to many a happy hour spent in painting or decoration for the church or the poor. The ideal of education for aspiring maidenhood seems to the writer to be a first-rate day or high-school, combined with a religious and intellectual atmosphere at home. In no other institution can girls enjoy the advantages of careful religious and domestic training united to opportunities for widening their sphere of knowledge and of thought, by attending lectures, visiting museums and art galleries, hearing something of what is happening around them, and keeping in touch with their sisters in a lower walk of life, taking up their share in that portion of woman's work which they are best fitted for.

Day-schools of some kind, whether high-schools or upper-grade schools, will probably be the schools of the future, and it is in these that the teaching staff should be strengthened, that the tests from outside should be courted, and the curriculum arranged on a broad and sound basis. Superficial teaching and a smattering of accomplishments should be conscientiously and systematically avoided; coaching up a few clever pupils to win a name for the school should be considered beneath the dignity of the work and of the worker; individual tastes and pursuits should be encouraged in the higher forms, and the child should merge into the—

"Perfect woman, nobly planned,
To warn, to comfort, and command;
And yet a spirit still, and bright
With something of an angel light."

The complement of the day-school course for the more intellectual maidens would be a term of residence in a hall or college (under the superintendence of some highly educated religious women) in Edinburgh or Dublin, or in the environs of London, where they could either specialize and attain excellence in some distinct line of art, literature, or science, or go through a course of professional training as teachers, and take out a diploma such as the L.L.A. of St. Andrew's, or a degree at one of the other universities.

Education carried out in a Catholic spirit has to keep in view the final destiny of the immortal being, without losing sight of the immediate sphere of action in which that destiny has to be wrought out. Hence the curriculum for higher education, while embracing all that can elevate and enrich as well as discipline the mind—theology, philosophy, mathematics, literature, science, and art—should also follow the lines of woman's work and woman's influence. The true greatness of woman lies in her position relative to the whole human race, and the power given her of molding it for good or evil. It is not by unsphering herself that the perfection of her being and her mission can be attained. All that it befits her to know as wife, mother, and teacher, can reasonably be made the subject of higher education; and it is to be hoped that the communities of religious sisters, who inherit the learning and the piety of the great monastic institutions of mediæval times, will rise to the full height of their modern mission, and bring up generations of *mulieres fortes*, religious and intellectual, heroic and self-sacrificing women.

Perhaps I may conclude by quoting the words of Professor Knight, of the University of St. Andrews, who in an admirable and exhaustive lecture, lately given at a training-college, on the history of the higher education of women, speaks thus of the work done by convents in ancient times:

"In the great Benedictine schools girls were taught in the same classes with boys, and they kept pace with them in their studies. They learned the classical languages, at the same time that they imbibed piety and devotion. It was in the convent schools of

the so-called dark ages that teaching was given both to the upper and middle classes; and it is a fact not as fully recognized as it ought to be, that women were less well educated after the monasteries had been destroyed. Fragmentary and unsystematic as some of their teaching undoubtedly was, they did an admirable work; and but for the enthusiasm of those mediæval spirits, and the seed they sowed, we should not now be reaping our rich modern harvests."

WOMEN'S EDUCATION IN NEW ZEALAND.

BY MRS. STEADMAN ALDIS.

THE Education Act of New Zealand provides that every person, "male or female," otherwise eligible, "shall be qualified to be a member of the board." "There is really," says the Inspector-General of Schools, "very little to say about the education of women in this country, because, in this respect, men and women are treated alike."

Primary schools throughout the colony provide for the education of all children up to a certain standard, and the whole of New Zealand is divided into twelve education districts, each ruled by a board. From the money intrusted to them by the government, most of these boards annually offer scholarships to the most deserving pupils of the primary schools. The winner of such a scholarship is entitled to free tuition at one of the secondary schools established in the principal towns of the district, and usually to an annual payment of twenty or thirty pounds. In the chief centers of population, Christchurch, Dunedin, and Auckland, are university colleges, to which the poorest can find access by means of scholarships. It thus frequently happens that a clever child of poor parents gains a district scholarship after free attendance for a few years at a primary school, and so passes without expense to a secondary school, where in due time an university junior scholarship is won, and presently the highest honors which the university can give. All these advantages are open to "all children of school age," to girls as well as to boys, the Education Act making this quite plain by speaking of "his or her scholarship," to be held as long as "he or she" shall continue "his or her" education. In the college lecture-rooms, the college and university scholarships, and the degrees, no distinction of sex is recognized; and it may be remarked in passing that there has been no sign of the many grievous consequences sometimes predicted from such a state of things.

With regard to the state schools, the following information has been kindly furnished by the Inspector-General: In the primary schools boys and girls are generally taught in the same classes. In large town schools, where the number of pupils is large enough to admit of separate instruction for girls, without waste of teaching power, there are separate classes for the sexes. There are a few separate schools for the sexes. The syllabus of instruction and examination in primary schools makes only one distinction between boys and girls, and that is with respect to needlework, which only girls learn; and it is ordered that "the inspector shall judge all other work done by the girls more leniently than that done by the boys, to such a degree as would be implied in reducing by ten per cent. the minimum marks required for any examination pass."

The governing bodies of all the high schools or grammar schools that owe their origin to state endowments provide education for girls as well as boys. In some places there are separate schools; in others girls and boys are taught together, and at the Auckland College and Grammar School, and elsewhere, the teaching is given to the boys and girls apart, but under one head-master. In the examination for primary school-teachers' certificates of the lowest class (E), the difference between men and women is that women

must take up needlework, and that for the paper in "Elementary Science" they have the option of substituting a paper in "Domestic Economy," and for them the minimum for a pass in arithmetic is somewhat reduced.

Nearly twenty years ago Miss Kate Edger, daughter of the late Rev. S. Edger, of Auckland, applied for an university scholarship in mathematics, thus testing the question whether a girl could hold such a scholarship. The authorities thereupon examined the question carefully, and, finding nothing to prevent, the successful candidate attended the Auckland College and Grammar School, that being then the only institution affiliated to the university within her reach. There she worked with the senior boys, who were preparing for degree, and after a course of three years was, again without any objection, admitted to the degree of B.A. Thus, while the old universities of England and Scotland were grudgingly doling out what could hardly any longer be withheld, the University of little New Zealand, spurning these traditions of selfishness, did itself the never-to-be-forgotten honor of being the first in the British dominions to bestow a degree upon a woman; and it may be added that this pioneer woman, now Mrs. Evans, M.A., is at present Examiner in English for the Matriculation and Medical Preliminary, and for the junior scholarships examinations of the university. A younger sister of this lady followed the same course, and last year Miss Lilian Edger, M.A., was elected by the Auckland graduates to a seat upon the Council of the Auckland University College.

Up to this date the senate of the university has been composed of men only, but, as far as appears, the position is quite open to any woman who may be appointed or elected to fill it. In fact, throughout New Zealand it is generally accepted as axiomatic, that to state endowments of education women and men have equal rights. If, therefore, in the university colleges, the men students outnumber the women, the reason is, simply, that fewer of the latter have cared to go in at the doors, which stand wide for those who choose to enter.

When the Durham University College of Physical Science was opened at Newcastle-on-Tyne, some ladies of the place addressed to the council a memorial asking that women might share in the advantages of the new institution. Without hesitation the request was granted, and it was a disappointment when, as year after year passed away, all the names upon the roll of students were those of men. When at last one or two women did appear, they shyly chose to place themselves quite at the back of the class; and in each lecture-room, in accordance with their evident wish, the back bench was courteously left for them by the other students.

On our arrival in New Zealand, between nine and ten years ago, we were edified by the contrast prevailing here. It was only the second session of the Auckland College, but the women students, of whom there were more than one or two, had already established the claim of custom to the front benches; so that once when, by the wish of the professor, a very deaf young man had taken a vacant front place, a young woman, unaware of what had passed, casting a scathing glance at the intruder, was overheard to ask her neighbor: "What's that boy doing there?"

Of all the different branches of education there is none from which women have been excluded with such obstinate determination as from the study of medicine; and, for some reason unexplained, unless it be fees, there is none which has evoked in its defense such an amount of ungentlemanly behavior. As, therefore, two ladies have lately joined the medical school at Dunedin, it seems likely that there at least might be found a comfortable supply of material for this paper, that there could hardly fail to be a tale to tell of opposition and of successful struggle. But Professor Sale, answering a letter of inquiry, says that there is nothing to tell; that it is merely an accident that women have only last year begun attending medical classes, for all classes of every kind have from the first been open to women, and that this unrestricted admis-

sion was largely due to the efforts of the first Chancellor of the University of Otago, Major Richardson, afterwards Sir John Larkins Cheese Richardson.

Dr. Scott, Professor of Anatomy and Physiology at Dunedin, has just been in Auckland. A young lady told him she wished to join his classes. He told her she would find it pleasanter to have a companion. She took his advice, the two girls entered, and everything went on as usual, quietly and well, without either difficulty or disturbance. It is gratifying to be able to add that medical studies at Dunedin are not tainted by the disgraceful horrors of vivisection. The district of Otago was in great measure settled by Scotchmen, but the experience of these two ladies has certainly differed widely from that of the first lady medical students at Edinburgh. That was some years ago, but even in the recent new departure there, the admission of women to the same lecture-rooms as men, there seems to have been reason for the trepidation said to have been felt by those best acquainted with the character of the Scottish student; and the behavior of the latter at the opening lectures to the mixed classes shows that there is need of the "elevating and humanizing influence" which it is hoped will proceed from the presence of women. "Why," exclaimed a New Zealand undergraduate girl, "*we* never hear of such things; such doings as those are never even *thought* of here." This is quite true, and perhaps, in saying so, we do feel some pride in our country, though, with regard to the treatment of women, if we look outside this one subject of education, we cannot give thanks that we are not as others.

In the public schools under the control of the department, many women find employment; and here comes in the one flaw. From pupil-teachers upward, women teachers are almost invariably less highly paid than men, for whom also the prizes of the profession, the best posts, such as they are, are reserved. In one of the suburbs of Auckland, for example, a small school had been successfully worked up by a lady placed at its head. Then the very increase of numbers under her management was made the reason for an agitation for her removal, on the theoretical ground that a woman could not maintain discipline among so many, and this lady had actually to leave, that a man might be put in the place to which she had given value. So we must not boast too much, even though the civil service is open to women, and though, as far as education of themselves is concerned, they are so fairly treated here.

It would be gratifying to be able to say that the advantages freely offered are freely used. But truth compels the admission that in the university colleges the number of women students is small compared with that of the men, and that the number of highly educated women to be met with in New Zealand cannot be described as large, though, indeed, this latter statement may be made also concerning the men. Professor Parker of Dunedin has thus put the case:

"In discussing the state of learning in Scotland, Dr. Johnson once said, with that mixture of insight and brutality which so often characterized his utterances, 'It is with their learning as it is with provisions in a besieged town; every one has a mouthful, and no one a bellyful.' That is precisely our case. We turn out every year a fair number of B.A.'s, and a few M.A.'s, but no scholars, mathematicians, or philosophers; a few B. Sc.'s, but no men of science. The list of our graduates includes many excellent and successful lawyers, doctors, clergymen, and schoolmasters; but how many are there among them who are recognized authorities on any subject whatever? In science I know of only one. . . . I consider that the first reason why our students do so little for the advancement of learning is that so few of them do it for its own sake. Making all due allowance for individual exceptions, there is very little enthusiasm among the young people of Otago, either for nature or for books; and it is to those who seek her diligently for her own sake, and not because she pays in an examination, that Wisdom says, 'Come eat of my bread, and drink of the wine which I have mingled.'"

It may be, further, that the want of enthusiasm is partly due to another cause, viz.,

that what is lightly gained is apt to be lightly prized. Under New Zealand socialism the primary schools are free, except a small payment for books, etc.—regarded by many as an inexcusable hardship—while the secondary school and university fees are absurdly low. However this may be, teachers of experience agree that the boys in the grammar schools do not work as hard as boys in the old country, and that the best of them leave school with a far smaller stock of knowledge than that possessed by boys in England and Scotland under similar circumstances. Naturally it is the same with their sisters, though, in Auckland at least, the latter have the excuse that, in what is called society, a girl who takes to study may have to bear a good deal of old-fashioned ridicule from persons holding the view expressed by a certain Scotchman in his prayer at a wedding, “Lord, we thank thee, who hast given us *wumman* to make us *comfortable*.”

In Auckland we have not a perfect, but a delightful, climate, for which we have a way of showing our gratitude by blaming it for our own shortcomings or overgoings, as the case may be. To this cause is sometimes attributed the want of enthusiasm, of grip, of the faculty of steady grind, among our students, which gives rise to the fear that these men and women of the future will miss from their lives the power which comes, and can come, only from “the stress and strain of glorious endeavor.”

In fairness to the university students it should be mentioned that among them are both women and men who are earning a living as teachers, and at the same time reading for a degree, and of them it certainly cannot be said that they do not work hard under very considerable difficulties. Also, owing to the high wages of domestic servants, girls in this country have usually a greater share of household work than would be the case in the old country.

But it is matter of regret that those who are comparatively free to make study their principal object pay so little attention to the precept which bids us “get knowledge, get understanding,” and this the more, as far as women are concerned, if, as seems not unlikely, we are soon to have the suffrage. Already New Zealand women interest themselves warmly in public matters in which the sound judgment arising from careful mental training is most necessary, and have organized themselves for the attainment of various objects. By their energy and determination they may actually be said to have defeated the Woman’s Suffrage Bill last year, since the publican interest was aroused against the giving of a vote to those who, it was feared, would use it for the passing of a law for the prohibition of “all sale of intoxicating liquors.”

Looking at the various possibilities opened to women during the last twenty-five years, it can but be hoped that they, who in the past have suffered so much from false ways of looking at things, will use their greater knowledge, their growing power, ever for truth and righteousness; that of them, in the brightening future, it may be said, according to the right reading: “The Lord giveth the word; the women that publish the tidings are a great host.”

In this glad heralding may the women of New Zealand join with all others—an universal sisterhood:

“For mankind are one in spirit, and an instinct bears along,
Round the earth’s electric circle, the swift flash of right or wrong.

New occasions teach new duties: Time makes ancient good uncouth;
They must upward still, and onward, who would keep abreast of Truth.”

As this paper comes from Maori-land, it may be permitted to close in Maori fashion: Greetings! Greetings to you every one! Greetings from the little islands to the great continent!

EDUCATIONAL WORK FOR WOMEN IN AUSTRALIA,
CHIEFLY NEW SOUTH WALES.

BY LOUISA MACDONALD, PRINCIPAL OF THE WOMEN'S COLLEGE,
UNIVERSITY OF SYDNEY.

By the side of the government or public-school system of education in Australia, stand the schools of every grade and kind started by private enterprise. At the top is the university, representing higher education.

To classify in detail the schools according to the education given in them is difficult. There is too little coherence of plan. The state of things is rather a chaos of theories gathered from the Old World and put experimentally into practice in the New. But out of the chaos time and circumstances are developing one or two clear ideas. One of these is the idea of government-aided education; the other is seen everywhere at this present time, especially in the democracy of America—the custom of educating the sexes together.

These two ideas of state aid, and of mixed education, have an influence in shaping women's education in Australia; but the conditions of life in the country affect that education, especially of the girls of the upper classes, most strongly and directly.

In the homesteads in the country, and in small country towns, the girls help in the housework, and are exceedingly useful. Good household servants are difficult to get, and the wages, even for indifferent workers, very high. The Australian girl is skilled in all domestic occupations—cooking, sewing, fruit-preserving, jam-making, and the like. But these things, and the necessity of knowing them, interfere with any education after the so-called school years are over. The hot Australian summers leave only a small amount of energy to be devoted to any purpose, and if that has to be used up in the kitchen, or at the sewing-machine, there is none to be given to hard study. I should think, too, that the shadow of the almost inevitable domestic vocation for women was cast before, and hung even over, the education of the girls, making it appear dimly to many as a work of supererogation.

In these country homes a governess teaches the girls—after a fashion—till they are about fourteen or sixteen, when they go to a boarding-school in Sydney or elsewhere to be “finished.” It is much the same system as that which prevailed in England till within the last twenty years; but here it has more drawbacks. The laxity of home discipline, the lack of any social pressure from without, leave everything to be done by the schoolmistress in the one or two years which are all that are allowed to her. The fierce competition which exists—for schools and mistresses are many and pupils few—makes the question even more complicated. Not only must parents be pleased by their daughters' progress, but the daughters, who have here some independence in their own affairs, must be pleased too, even the most unruly, and the results are not always satisfactory. One result is somewhat noteworthy: the almost complete neglect of arithmetic and mathematics in schools for girls. It is really with difficulty that a girl at a private school can learn mathematics enough to qualify for matriculation at the university.

Still in many ways, in spite of difficulties, the teaching in these private schools is excellent. Latin in many of them has a recognized place among the subjects taught, and in some elementary algebra and geometry as well. In part this is due to the system of local examinations instituted by the university. The great events of the school year are the senior and junior local examinations, and much *esprit de corps* is shown concerning the success and failure of candidates from different schools. The lists are

published in the early summer, October and November, and for some days before they appeared I was puzzled by the intense eagerness of my students, newly emerged from the schoolgirl stage, to see the morning papers. The winners of the Fairfax prizes (*i.e.*, the best candidates of either sex), the schools they came from, the other honors gained, were discussed and commented upon over and over again.

Many of the girls who distinguish themselves at these university local examinations come from convent schools, conducted by the Sisters of the Sacred Heart, of the Good Samaritan, and the Loretto nuns; and these convent schools for girls, as well as the schools for boys taught by different religious orders, are an increasingly important factor in the secondary education in New South Wales. A proportion of the convent-bred girls go on to the university, and two of them were among the first non-resident students at the Women's College. From those I know I should judge favorably, not simply of the instruction, but of the general tone of education given by the Sisters.

Besides the private schools, there are one or two high-schools for secondary education under government control. So backed up, the teaching is more authoritative, and, consequently, in harder and less attractive subjects, more thorough. From all this it can be imagined that the higher education, as we use the term in England, is not widespread, however far advanced it may be in individual cases. It is not yet the custom for men to attend the university courses except for professional training as lawyers, doctors, or teachers. The same holds good of women to a certain extent.

Owing perhaps to the growth of wealth and the increasing proportion of women to men in town population, there are a few women, attracted to study by the love of it, who go to the university; but their numbers as yet are small. There is no established wealthy and leisured class, as in England, amongst whom learning and the love of learning might be cherished. Those who have money, either made or inherited, who desire culture and art, go to the Old World to seek it, or break up their time by perpetual voyages home, and their sons and daughters go to English schools and colleges to be educated.

This is desirable in many ways, but it were to be wished that education, wherever conducted, should include the inculcation of patriotism as a primary duty; not patriotism in the sense of brag, but the patriotism which would make the new countries of the south resolve to emulate the toil and the glory of the islanders from whom they sprang.

The question of state subsidies to education is too large to be treated of here, even as regards its effect on women's education, and the advantage or disadvantage of the same depends on the view taken of the duties of the state. About the advantage of the other leading idea, that of mixed education, which time is developing in Australia, there seems to me small room for doubt. It is practiced in all the colonies, I believe, in primary schools (though in towns, as the children grow older, the sexes are divided), and in the universities. The separation of the sexes still holds good in secondary education. To the years of separate work are due, I should say, whatever drawbacks of flirtation and undue excitement there may be in the university life. But a few months at the university generally does away with these, and it is pleasant to see the terms of frank equality on which young men and women meet each other at university lectures, on the tennis courts, in the quadrangle, or at college and university sports and games.

Both Sydney and Melbourne Universities have a system of sectarian residential colleges; in Sydney, founded and endowed partly by government, partly by private subscription. At the Sydney University there are three—Anglican, Roman, and Presbyterian, and lately a new departure has been made in the foundation and incorporation by Act of Parliament of a non-sectarian residential college for women. The movement to found the Women's College began with the professors of the university, some of whom largely aided by subscriptions as well as personal effort, and, till the proper college build-

ing should be erected, temporary premises were opened last March just after the beginning of the university session. Unlike the first women's colleges in England, it began rather with the desire to create a demand than with any demand on the part of students or their parents. But that has been the way with the university itself, and there was and is still in some quarters no less opposition to university education and scorn of its advantages than there is now to our Women's College.

There were in residence in 1892 four students, and four others were admitted in the course of the year, to attend tutorial classes as non-resident students. For the first week of the year the first student was alone in her glory, and as she passed to the lecture-rooms the first-year students, still rather at the schoolboy and larrikin age, used to salute her with jeering remarks, such as "There goes the Women's College!" But the jeers changed to friendship later, and the first students of the college were among the most popular of their own or any other year.

University lectures in Sydney are compulsory, to obtain a degree, and this adds to the difficulty of carrying out the residential principle. The students are necessarily absent from college so many hours a day, and during that time practically responsible to no one. Melbourne approaches more nearly to Oxford and Cambridge custom. There the colleges have usurped somewhat the university functions, and attendance at college lectures is accepted as equivalent to attendance at those of the university.

Some six or seven years ago the Warden of Trinity College, Melbourne, founded a hostel for women students attending the Trinity College lectures. Some of the most brilliant women students of the Melbourne University have at one time resided in the hostel; among others, Miss Staurell, who won high honors at Cambridge last year. But the prosperity of it has fluctuated, and it has no standing of its own, owing in great measure, I imagine, to the somewhat anomalous position it holds of a women's annex to a male college. Of course it remains to be seen whether the Sydney plan will be more successful.

The residential colleges in Sydney are built in the university park, and have grounds varying in extent from two and a half to sixteen acres. The four colleges—the fourth, the Women's College, is now in process of building—the laboratories, the Medical School, and the beautiful Prince Alfred Hospital, lie grouped irregularly round the central university building, which stands—a long line—on a ridge of hill, and have a very imposing effect. The arrangements for residence for men and women alike are the same as that at Newnham. One fairly large room serves for study and bedroom, and libraries, reading, and sitting rooms are common to all the students.

Individual women students in Australia have greatly distinguished themselves at the universities: Miss Jane Russell, M.A., (now tutor to the women students at the Sydney University) here in classics, Miss Whyte at Melbourne in medicine, and others at Adelaide and in New Zealand. All the four Australasian universities, Sydney, Melbourne, Adelaide, and New Zealand, are open to women * as to men in all subjects. In medicine, where there is a medical school, the men and women work side by side. In law, there have been as yet—to my knowledge—no women students, but there is nothing in university regulations to hinder their gaining a law degree.

Apart from the regular system of instruction at schools and the university, there is in Sydney a very flourishing scheme for university extension lecturing. Courses of lectures have been delivered in Sydney, the suburbs, and the larger provincial towns, on history, literature, and philosophy. As has been proved in England, they have an influence on the intellectual life of men and women, chiefly, perhaps, of women, and they pave the way for appreciation of more thorough and systematic teaching. Last

* Sydney was opened to women in 1884, Melbourne in 1881, Adelaide in 1880, New Zealand certainly since its reconstruction in 1874—whether before that date or not I do not know.

session, for the first time, a course of university extension lectures was given by a woman lecturer, and at the same time, on the motion of one of the professors, a woman was appointed assistant examiner at the local examinations. This last appointment had already a precedent in New Zealand. There is, I think, no doubt that a fair field in intellectual things lies opened to women here if they care to take advantage of it.

No one who is accustomed to the strong current of intellectual life in Great Britain, or even those in America, wide though it is, who are in touch with a large population, can appreciate either the intellectual difficulties or the triumphs over them of the few hundred thousands who dwell on the borders of our island continent. Few books are published here. Of English books of note, as solid literature, but one or two copies are imported except on order. The university and public libraries, good as they are, are still necessarily lacking in much even of general interest. Specialist literature is often entirely unrepresented. Nothing, perhaps, will illustrate better the state of general intellectual thought and its upward progress than an interview I had with a leading bookseller in Sydney some months ago. I had asked for four books, all fairly well known, none of which did he know by name, much less have in stock. The fifth, Frazer's "Golden Bough," to my surprise he actually had—one of two copies in the colony, he assured me. I complained, perhaps more gently than had the fifth book too been unattainable, of my ill success and his small store. "Well," said he, "we're a great deal better than we used to be. Nine years ago, when I set up in business, most of our trade was done in young ladies' journals and the like; now we hardly sell any."

Let no one smile. Only one hundred and five years since the sparse inhabitants of New South Wales were savages, and the conditions of life to-day in the cities of the white man, except the capitals, are crude. Yet in Australasia there are four universities, and Tasmania is about to found a fifth. Those who are destitute of education are few in number—only four per cent. of the population—and learning is absolutely free to men and women alike. Only, as in all new countries, leisure is wanting; and this will come with time.

RECENT DEVELOPMENTS OF EDUCATION FOR THE WOMEN AND GIRLS OF INDIA.

BY E. A. MANNING.

In attempting to describe the recent progress of education among the women and girls of India, I have to call your attention to a remarkable but silent conflict which is taking place in that country. On the one side we perceive an attacking force from the West, favored by political circumstances; namely, an educational system which recognizes the claims of women to intellectual and general development. On the other side, a compact social framework, based upon the solid rock of custom, supported by the traditions of centuries, and strictly controlled by an authorized religious caste. The struggle did not begin actively until fifty or sixty years ago, and there are parts of India which it has as yet scarcely disturbed. Moreover, one is frequently in doubt whether the apparent triumphs of either combatant are real or only superficial. But a deep interest attaches to the contest, and in this short paper I wish to indicate a few of its main features, and of its results. I shall refer, first, to the rise and characteristics of the English educational system in India; secondly, to the Indian social system in regard to women; and, thirdly, to the collision between the two.

Let me remind you, preliminarily, that the population of India, including native states, numbers about two hundred and eighty-seven millions, and that it consists of three chief races: Hindus, who arrived in successive waves from the North in the distant past,

and who form, roughly speaking, four-fifths of those millions ; Mohammedans, one-fifth, military invaders, whose large empire was already falling to pieces when British rule began ; and Parsis, exiles from Persia eleven hundred years ago, who, numerically insignificant, being only ninety thousand, have won a prominent position by their enterprise and their charitable munificence.

I. The English educational system in India.

It must not be supposed that India had no schools in early times. Sanskrit seminaries were scattered here and there in the recesses of the forests, where pundits explained the Vedas to bands of select disciples ; and the Mohammedans used to teach the Koran, chiefly by rote, in schools attached to mosques and in colleges. There were, besides, in thousands of the agricultural villages, small schools of a very primitive type, called in Bengal *Patshalas*, and in Madras *Pyal*, or veranda schools. The pupils used to shout out the alphabet, each independently, and the parents were apt to estimate the efficiency of the master by the amount of noise that they heard in passing by, just as now they are said sometimes to judge of the children's progress in writing by the proportion of ink bespattered over their simple garments. But the teaching was remarkably adapted to the object in view, which was mainly to give facility in village accounts, and these schools have served as a foundation for the government system of primary education.

Nor was the Indian girl of the well-to-do classes without some sort of education in her own home. She *was*—I may say, she *is*—instructed especially with great care in household duties. Every Hindu lady must know how to attend to the ceremonial rites for worship, and to cook, to wash (and perhaps dye) her sārrees, and to direct servants. She probably learns, too, to recite religious poems—those legends which illustrate her duties as a wife ; and she is taught enough arithmetic to enable her to bargain and to keep accounts. Among the Mohammedans the girls become very clever also in embroidery, and they sometimes acquire the classical and beautiful Persian language.

In the orthodox families reading and writing were very rare accomplishments ; for it was thought, and still is thought in some parts, that if a girl is allowed such instruction she will early become a widow. But the Indian girl is capable, quick, and docile, and, within the narrow limits of her training, she soon evinces skill and practice. The moral teaching that she receives cannot usually be said to be satisfactory. Too often children are alternately coaxed and threatened, and obedience is secured by means of superstitious dread. Evil spirits are supposed to lurk everywhere about, ready to seize the self-willed child, whose natural joyousness is thus frequently crushed by haunting terrors. The mothers are so young and so inexperienced that they can hardly be expected to be wise in the treatment and guidance of their children.

Education, then, was by no means unfamiliar in India ; and now, how did the English system take its rise ? The East India Company, which dates as a governing body from 1757, having been at first connected only with trade, did not occupy itself with educational matters until some way into the present century. A practical necessity had by that time arisen, to meet which Western training was introduced into India. For administrative purposes the Government required native aid. The study of English was therefore encouraged, and the Hindus and Parsis (the Mohammedans at first holding aloof) began speedily to equip themselves with that language as a means of livelihood. Boys' schools and colleges sprang up, especially in the presidency towns, under three distinct agencies—missions, associations of Indian gentlemen, and the Company's Government. In similar order, but on a comparatively very small scale, these same agencies commenced doing something also for the instruction of girls.

The first school for girls at Bombay was founded by an American mission in 1824, and before long the various missionary societies started many in all the presidencies for their converts and for outsiders. These schools helped, by their gentle discipline and by the kindly personality of the teachers, to disarm prejudice ; but there arose gradu-

ally a strong fear among the orthodox Hindus of possible proselytism, so that the pupils of the missionaries fell off for a time, or came chiefly from the lower castes. And now certain classes of the Indians began to bestir themselves. At Bombay some enthusiastic Parsis devoted their limited leisure to teaching in four girls' schools founded by their community, and at Calcutta several educated Hindus, who had given up caste, became active in the same cause. Meanwhile the richer people generally were not only apathetic, but distinctly averse to education for girls on Western methods, and those who stood up for it had to endure various kinds of serious persecution.

A decided impulse next came through the Government; for, in 1854, an education despatch of great import was issued by the Court of Directors of the East India Company, and later confirmed by the India Office, when the Company had ceased to exist. As a result of that despatch, the present educational machinery came into being over thirty years ago. Three universities were founded, to which the existing colleges were affiliated, and which since some years have been opened to women; a Director of Public Instruction was appointed in each province; grants in aid were multiplied for girls' as well as for boys' schools; and additional state funds were appropriated in support of education, that for girls being specially favored.

Now followed the visits to India of Miss Mary Carpenter, the first taking place in 1866, and these exercised considerable influence upon the progress of Indian women. She succeeded in stimulating many educated men to allow to their wives, sisters, and daughters some of the advantages which they themselves enjoyed; and also she persistently emphasized the pressing importance of increasing the supply of women teachers. Through Miss Carpenter's efforts a few normal schools were established by Government, three of which, after many vicissitudes, are still in active working—that at Madras being one of the most useful educational institutions in India. The strong opinion expressed by Miss Carpenter as to the need of duly trained teachers for the girls' schools received also a thorough corroboration from the witnesses examined before the education commission of 1882, presided over by Sir W. W. Hunter.

I am inclined to wonder whether it might not have been better in some ways if these educational arrangements had been delayed thirty or forty years. For the period which introduced Western training into India was characterized in England by two dogmas, one positive and the other negative, both of which are now widely disputed. There was then a prevailing idea that education should be mainly literary, and that if every one could read and write, the prisons would be nearly empty; while the negative belief was, teachers did not require to be specially prepared for their work—that it was the one profession in which training is superfluous. It appears to me that the educational system of India was pervaded and greatly vitiated by these two views, and in India, owing to certain conditions, they have proved even more hurtful than in the West. If at the first it had been recognized that true education consists in the development, not of one or two, but of all the faculties, moral and physical, as well as intellectual; and if, instead of energizing to multiply, by hundreds, poor little so-called schools, under the lifeless teaching of aged pundits, the *first* effort had been to provide well-trained teachers, and the *second* to start schools—less work, I think, would have had to be undone, and there would have been a better chance of overcoming, by the presentment of a really sound and practical system, the very strong objections of the people to English education. Perhaps, however, it was one of those cases in which only through attempts, however imperfect, the desired end could be attained.

Anyhow, much improvement has latterly become noticeable. All the three agencies above indicated—Government, the people themselves, and missions—are now not merely establishing girls' schools, but trying to encourage better methods of instruction; elementary science, hygiene, domestic economy, and drawing, etc., are here and there introduced; the work of the zenana teachers is of better quality than formerly; a plan

of home teaching for families in which missionary influence is disapproved has been instituted by the National Indian Association, a society founded by Miss Carpenter ; some beginning has been made towards understanding and applying the principles of the kindergarten ; normal training is more insisted upon ; and opportunities for the higher education of women are increasing. I may mention also the very important action of the Madras Government in placing, a few years ago, all the girls' schools of the presidency under women inspectors instead of men ; which has had the most satisfactory results.

An organization has thus been planted in India, testifying, in spite of defects, with an emphatic voice to the truth that women and girls should be educated as surely as men and boys.

II. Let us look, secondly, at the Indian social system, that stationary force which presents an antagonistic front to Western education, especially as regards women. I shall allude to two customs, one chiefly distinctive of Hindu, the other of Mohammedan, life in India—child marriage, and seclusion.

First, then, the custom of child marriage. Now, this is no mere transitory fashion or habit. It rests upon the religious philosophy which governs every moment of the life of Hindus, and upon the theory of that philosophy respecting women. Until a Hindu girl is married she cannot be said to have any spiritual existence at all. Only by means of her husband does she become a spiritual being. It is therefore the clear duty of her parents to marry her suitably and early. And, in fact, one reason why the birth of a girl is so unwelcome in a Hindu family is that the difficulty and the expense connected with her marriage at once loom into view. No music or rejoicings announce her birth, as in the case of a boy. She is received into the world under the silence of disappointment. In former times her life was held so cheap that infanticide was fearfully common. It was thought better to destroy the child than to run the risk of not being able to marry her within the limit of her caste. The anxiety of the parents on that score begins in her earliest years. The match-makers, that is, usually the barbers or the barbers' wives, are set to work to enquire for eligible boys with a favorable horoscope. When one is selected, there follow endless discussions as to money and presents, so that, as they say, a *lakh* of words, namely one thousand, are expended in the transaction.

At last all being arranged, the chief marriage ceremony has to be performed. The little girl may be only a chattering infant, or more likely eight or ten years old, but this first ceremony, which we should call betrothal, must take place while she is still almost a child. In one way it is much more than a betrothal, for if the "wedded boy" (as I have heard him called) dies she is looked on as a widow for all her days. Of course she enjoys the importance of the occasion, and she likes being laden with ornaments and apparelled in red (the color which has to prevail at Hindu weddings from the invitation cards onward), and she likes the receiving of presents, and the feasting, and the fun. Besides, her thoughts have been directed to her marriage from the time that she could understand anything. But her childhood is now at an end, and she must behave very demurely.

A while after, when she is about twelve, the second, a less grand ceremony, takes place, and from that time she joins her husband to live ever after, except for rare visits home, at the house of her father-in-law. We will just follow her there. She enters a large joint family, similar to the one she has left, consisting of the parents, the sons with their wives and children, and an indefinite number of more or less distant relatives, many of them widows. She comes as the youngest bride, and has to be entirely submissive to her mother-in-law, and to her sister-in-law, who probably apportion to her the work they most dislike. She is under the strictest rules of behavior. She must not eat till her husband has finished ; she may not even call him by his name ; if she wants

to indicate him it has to be by a gesture, or by an indefinite pronoun. It is her duty almost to worship him as a god. If she does not behave rightly towards him she will be reborn as some objectionable animal.

A teacher once told me that, wishing to test the knowledge of her pupils, she pointed to some bats, or flying foxes, suspended from the bough of a tree, asking what they were. The answer was: "Those are the souls of women who have eaten their breakfast before their husbands." The wife also has to be very careful about covering her face and keeping silence in the presence of her elder brother-in-law, or of strangers. Should she have a son her position improves very much; but if she becomes a widow she is shunned as unlucky, and accused of having been the cause, through sins in a former life, of her husband's death. She has then to practice rigid austerities for the good of his soul, and as affording her the only hope of one day rejoining him. I need not wait to point out how opposed this custom of early marriage is to the intellectual, moral, and physical development of the Indian woman. It hurries responsibilities on to the girl before she is fitted to bear them, and interferes with the quiet interval which education may reasonably claim. Among the Mohammedans marriages are usually later than among the Hindus.

Second, and now as to the seclusion of women, which we English call the *Zenana* or *Purdah* system. I have said that this is distinctive especially of Mohammedan life, but it is also adopted by the Hindus in many parts of India. The point is disputed which race introduced it, for Mohammedan women in other Mussulman countries are permitted, if veiled, to walk and drive out more freely, which seems to indicate that the restrictions were first learned, or first adopted, in India. On the other hand Hindu women had far more liberty in ancient times, and they cannot be said to be now much secluded in Western and Southern India, where the sway of the Mohammedan was less powerful. Anyhow, in all Mohammedan families of any position, and in numbers of Hindu families of Bengal and the Northwest, the women folk not only have to confine themselves to the inner apartments (perhaps a second inner court, or a portion of the house quite shut off), but they are forbidden to go out and about, even in company with their relations, except it may be for a pilgrimage, or on a visit to their former home. If they *must* drive anywhere, the curtains of the carriage are closely drawn lest by any chance a stranger should see them.

The arrangements when a Mohammedan lady has to make a railway journey are most complicated. I have observed how the enveloped *palki*, in which she is borne to the station, is set down on the platform, and how then her servants hold up curtains, and make an avenue for her to pass along into the carriage, where already every blind has been pulled down. The *Purdah* (or screen) seems to indicate distrust, but to be thus secluded is so much a mark of social rank that the women themselves would on no account give it up. And although for years, or for their whole lives, they are restricted to the inner apartments with only the variety of the courtyard or the roof, their life is by no means dull.

In a Hindu home there is much household occupation, and plenty of companionship and opportunities for gossip. The Mohammedan ladies depend rather more on servants, and often get very lazy, unless they are fond of needlework, or have literary tastes. But in all cases the life is varied by frequent feast days, when the house is furnished up, and friends come and go, and religious leaders are entertained. Indian women, however, are contented, because they know of nothing different. Besides, they believe implicitly in fate; whatever is "written on the forehead," as the Hindus say, must come to pass, and be borne with submission; and the Koran teaches the Mohammedans to be fatalists. But consider how narrow must be the ideas of these ladies; how shallow their knowledge of the outside world; how limited their experience; how undeveloped their powers. Yet it is quite a mistake to think that Indian women have little weight

in domestic concerns. On the contrary, their influence is most potent. Especially the chief lady, the wife of the head of the family, has great authority. She controls the whole internal organization; she manages the stores, and very cleverly; she decides about the marriages to be arranged; she is consulted by her husband, even as to his own affairs. Indeed, it is because of the power wielded by the women that their rooted prejudices and their extreme conservatism are so much to be lamented.

Many other customs might be named antagonistic of Western education, but these two, child-marriage and seclusion, present the greatest barriers of all.

III. I now pass to the third division of my paper—the collision between the English educational system and the Indian social system. The two have met in India, face to face, and let us note a few of the results of the conflict.

The joint-family is strong within itself, and admirably complete. Every part bears a fixed relation to the whole; each social rule is framed with regard to the general ideal; adaptation to surrounding conditions has been carefully worked out and secured; while as to discipline, a supremacy, which all acknowledge, is, as we have seen, vested in the family head, and his wife. Now, what reply does this joint-family make to the theory that girls should have a sound general education? Its answer is: "Our girls have no need of such education as you offer. They are not to become clerks or *Munshis*—so leave them alone." Thus, indirectly, the fact that at the rise of English education for men, it was encouraged and accepted as a means of livelihood, tends to prevent its extension to women. But the joint-family says further: "It was the custom of our forefathers to give no education to their female relations, and why should we be guilty of disrespect to them, by deviating from the path which their superior wisdom thought it most expedient to tread?"

One may oppose to this that in the very early times education was considered honorable in women, and that only comparatively lately have they, as the saying is, been "drowned in the ocean of ignorance." But arguing is of little use, for the one unanswerable answer, continually reiterated, is, "Such is our custom." This phrase, however, no doubt covers a real fear on the part of the men that domestic life will be more disturbed if the women are permitted to have education. It is objected, They will not be so submissive to their husbands; they will neglect their children; they will become affected, conceited, discontented. It cannot be denied that to a certain extent education will alter the present social ideas, and this the men shrewdly perceive. But they do not see that it is a wrong towards the women to condemn them to ignorance, and that if women, as well as men, may but receive a *sound* education, family life will reach a better standard. All the antagonistic reasoning put forward tends to prove that it is not education in itself that is disliked, but its inevitable effect upon the existing social system.

We will look more closely at what is taking place in India; first, as to schools, and secondly, as to higher education for women—and I think it will be evident that in some degree the social fortress is already giving way.

(1) Schools. Let us glance at that pleasing sight, a Hindu girls' school. The pupils, with their rich brown complexion, and fine black eyes, are dressed in the graceful *saree*, of various tints, deep red, purple, green or orange. Their dark hair is tightly drawn back and arranged in a plait, either coiled behind one ear, or hanging down behind, and decorated with golden ornaments or flowers; they wear numerous chains, bangles and anklets, and, of course, no shoes. The younger ones—gentle, round-faced little children—now often have colored skirts and jackets. The teacher, probably a man, with long coat and turban, and perhaps a cashmere shawl thrown across his shoulders, stands at his desk, the girls sitting, in modern schools, on benches, while the smaller ones are more comfortably placed on the floor. The school is perhaps located in veranda rooms, surrounding an ordinary courtyard, so that you catch sight of the classes on the dif-

ferent stories all at once. Or, it may be in an old deserted palace, or more frequently, in a dark close room, which would be hardly thought good enough for a boys' school.

The girls are delighted to bring their needlework or their writing for a visitor's inspection, and several of them timidly hand you a book, that you may hear them read. For, under a capable teacher, they begin to take pleasure in learning. But the climate is not favorable to exertion, so if the teaching is dry and monotonous, they are quite willing to sit in listless inaction. Mrs. Brander, one of the Madras inspectresses, has said, that on going into a school, she can tell from the countenances of the scholars whether the teacher expects them to use their brains or not. It may really be called unfortunate, that Indian children have such good memories; they can repeat with the greatest ease passages that they have heard or read, without having any idea as to the meaning. And as from old times it has been the habit of Indian schoolmasters to be satisfied if their pupils could learn by rote, there is great difficulty in persuading them to aim at anything higher.

Now, there are numbers of such schools, and so far education is advancing. But see what happens, when the girls are just waking up to the pleasure of receiving instruction. It is the social system that now "scores." An auspicious month for marriages has arrived, and straightway all the most forward scholars are swept into the seclusion of a zenana. In some parts they may return to school for a year or two between the first and second marriages, but in the stricter districts it is not so—and besides those that are at once to become brides, numbers of their young companions absent themselves, to attend the wedding festivities. And some perhaps are removed from school though they are only eight or nine years old, because it will be a saving of expenses to celebrate two marriages at once. The disappointment of able teachers is great when the only promising children are thus spirited away. I have heard of some town where there was once even a double clearance, for an unlucky conjunction of planets had been predicted for the following year, and consequently all the girls whose marriages had been planned for that unfavorable twelvemonth were obliged in their own interest to be married earlier.

Under such circumstances one is apt to doubt whether it is worth while to continue the struggle; for these girls, as has been in many cases ascertained, forget very soon what they had learned at school. But just as the sieve remains damp even though the liquid poured into it has quite disappeared, so the young scholars probably retain some little good from their short school course. They benefit at least somewhat by the habits of regularity, punctuality, attention and effort required of them, and it is of value that they should have the change of spending a few hours daily away from the large mixed home group. And one strong reason for encouraging these schools is, that when the time comes, the pupils, as they really like attending, will be probably more ready to send their own children. So in spite of the early withdrawals, the cause of education is on the whole the gainer.

I have now to mention an unexpected way in which even the orthodox ladies are becoming influenced to favor school training for girls. It has come to pass, with the rapid spread of education for men in India, that college students and university graduates have begun to prefer educated wives to such as are ignorant and illiterate. The consequence is, that when a girl's parents meet the relations of the bridegroom to discuss money arrangements, her school training makes a point which lessens the expense on their side. I have heard of an old woman, who brought her grand-daughter up to the teacher, saying, "You must move this girl quickly into a higher standard, for it is time to marry her;" implying, "the more advanced she is, the smaller need her dowry be." Such calculations have for some years prevailed in regard to the young men. A matriculated student has a greater value in marriage—a value that can be stated in

rupees—than one who cannot get beyond school, and of course a B. A. is reckoned at a higher amount still.

The future of an Indian student depends so much upon his place in the examinations, that these computations are not surprising ; but that girls, on whom the money-making does not depend, should now be appreciated by the same scale, is a matter of promise. It is an interesting fact, too, that girls who have attended school begin to consider it important that the husbands chosen for them should be educated. Even some years ago a little girl of eight, finding at the marriage ceremony that the boy she was to marry was in a lower standard at school than herself, and that he was unable to answer certain questions in arithmetic or geography which she put to him, turned reproachfully to her parents, exclaiming, " You have married me to a stupid man !" while he on his side urged that she should at once be withdrawn from school lest she should get further beyond him. Although the pecuniary motive is not the highest, yet it is encouraging that the family authorities are in a measure yielding to the new requirements of the times.

I may refer also to the influence of scholarships for girls as delaying the age for marriage. Many of the girls who attend school are very poor, and if they are able to win one of the numerous scholarships offered on the condition of working for a higher standard, the parents are sometimes induced to let them continue at school beyond the usual age, so as to take advantage of it. The amount may be only three or four rupees monthly (£2 or £3 a year), yet this sum, and the honor attaching to it, are highly valued. It is considered one of the best ways of encouraging education to found such scholarships, and thus indirectly to lessen the evils of the marriage system.

Prizes, too, are greatly appreciated, only their apportioning ought to be made to depend, more than is the case, upon merit. I remember seeing a tiny girl in her mother's arms at a prize-giving, and I asked how she had earned the toy in her hand. The mother replied that it was given her because she had come to look on. But these ceremonies do good by arousing interest in the schools, and when one sees the children's delight at receiving the presents (even if they may not be called prizes), one cannot but believe that it would be a pity to abolish the system. And a prize distribution in India is certainly a very attractive occasion—when the school-room is decorated with tropical foliage and ferns, and the children appear in their gayest attire. Scholarships and prizes thus tend to weaken the prejudice against education for girls.

With regard to fees, the people are beginning to understand them rather better than at first. It was frequently the custom forty or fifty years ago for school managers to pay the children for attending, and even to send carriages to collect them, but there is no necessity for this now, at least in the enlightened districts. But fees are still a trial and a puzzle to many. Regular charges are not in harmony with the people's habits. In old times the schoolmaster did receive remuneration, but it was most often in the form of a present. The parents would give him at intervals a piece of cloth, or a few mangoes, or some tiles wherewith to strengthen his roof against the monsoon, and especially when a pupil had conquered the alphabet or had entered upon a new book, or if a marriage was to take place. Besides, a feeling which one cannot but respect is prevalent in India, that learning is too precious a thing to be bought or sold. However, the necessity of paying for it is being gradually acknowledged. The government fund for educational purposes is not large, so it is important that the people should help to bear the burden, which they will do if they really care for their children's education. On the whole, progress in fee-paying is generally observable.

Now let us take a general view of the position. What is the proportion of girls attending school in India? Probably, in the whole of the country, not more than two per cent. This is even rather too high an estimate ; but take 1,000 girls of the school-going age, and 20 will be found at school, and the remaining 980 will belong to families that

abide by the old customs. This is the discouraging side, but there is another view which gives much promise; namely, the number of girl school-goers increases steadily every year. I will instance two presidencies. In Bombay, twenty-one years ago, in 1872, about 11,000 girls were at school, while last year the number had grown to more than 67,000; and in Madras, the advance is greater still—from 9,500 in 1872, to just over 98,000 in 1892. And it has to be noted, too, that, independently of schools, education is spreading considerably, for the educated men often instruct privately the girls of their families in the vernacular, or even in English.

Nor is it only in British India that the prejudice against education for girls is somewhat disappearing, for in several native states there is a remarkable increase in girls' schools. The enlightened rulers of Mysore and Baroda, and several other Maharajas, are devoting much attention to this movement. By the latest statistics of Baroda, a greater proportion of girls attend school there than in the Bombay Presidency; and at Mysore there is a large school of high-caste girls, with normal classes, which has existed for some years, and from which, as a center, schools are extending over the province. These princes, too, and some rajas, occasionally secure English governesses for their children. The ruler of a native state can, in certain ways, do more than the British Government to incline the minds of the people towards education. Being of their own race, he can understand and meet their objections more fully, so that his lead is followed in a less suspicious spirit, and with a firmer tread. It is, therefore, very satisfactory that in several of the Rajputana and Kathiawar states, as well as in Travancore and those states already mentioned, the rulers are practically showing favor to the school training of girls.

(2) I will now refer briefly to the progress of higher education for women. There are certain small communities in India which have never belonged to caste, or have broken with it, which do not practice either child-marriage or seclusion, and among these there has arisen a genuine desire for Western education. I mean the Parsis, some classes of Christians, and the Brahmos. The conflict that I have dwelt on concerns these comparatively little; their efforts at culture are not followed by excommunication and persecution, and thus they have been able more freely to develop their faculties. Several Indian women of the communities that I have named have, in the last ten or fifteen years, distinguished themselves in various lines of intellectual and practical work. The first perhaps known in the West was Toru Dutt, of Calcutta, who, though she died so young, showed much poetic power, clothing in graceful verse some of her country's legends, and even translating from the French with accuracy and sympathetic comprehension. I have already stated that the Indian universities are now open to women. Women students have not been slow to take advantage of the facilities thus given them. Indeed it was because one Indian young lady, Miss Chandra Mukhi Bose, a Christian, desired to present herself for the Calcutta matriculation, and to proceed to the B.A. examination, that it was decided to admit women to the degrees of that university; in 1883 the B.A. degree was conferred upon her, and upon an equally studious fellow-student belonging to the Brahmo community. Miss C. M. Bose is now an M.A., and she has been for some years superintendent of the Bethune School and College, while the other lady, Miss Kadam-bini Bose, now Mrs. Ganguli, B.A., is a medical practitioner. She may probably visit the United States. Since then several others in Bengal have followed the example of these two pioneers, and have taken the Calcutta B.A. examination. Meanwhile four or five lady students have graduated at the Bombay University, the first of these having been Miss Cornelia Sorabji, who has since passed a very advanced examination in law at Oxford. At Madras no woman has as yet taken a degree, but last year some girls, from an excellent mission school, were the first to matriculate in that university.

Indian women of these more advanced communities have also begun to do excellent

professional and philanthropic work. A good many have entered upon the career of medicine, either in missions or under Lady Dufferin's Association. Several Parsi ladies are already practicing, and others preparing for this profession. It is of inestimable benefit to the zenana women to be able to apply in illness to doctors of their own sex, and there is reason to believe that the number of medical women students will surely increase. In literature several Indian ladies are exerting themselves with success. One, in Bengal, has published a small volume of poems; another, a Parsi, writes folk-lore stories in excellent English; a member of the well-known Tagore family edits a vernacular magazine; a Madras lady has written a pleasing tale about life among native Christians in the Punjab; some striking essays and dialogues regarding social reforms have been brought out by a Hindu lady of liberal sympathies, belonging to the Punjab. Another extremely important line taken up is that of teaching. Only when the men teachers in Indian schools can be superseded by women, will the parents permit their daughters to remain at school after the age of ten or twelve. It is therefore most satisfactory that more students are presenting themselves at the training colleges. It will be long before the necessary change can be effected everywhere, but it is already a settled aim of the Madras Education Department to provide women teachers in all the girls' schools of that presidency.

From among the communities that have no caste hindrances (and from among the Eurasians), more and more, it is hoped, will take the profession of teaching. Even some orthodox Hindu women—wives of schoolmasters, for instance—and widows have come forward to be trained, with a view to their undertaking the charge of schools, and actually here and there a Mohammedan woman has ventured on the same course. I may add that Miss Govindavajulu, a Christian, has done several years of excellent educational work as an assistant inspectress to Mrs. Brander.

Then again, there is occupation of a philanthropic kind, and here a prominent place belongs to a Hindu lady, learned in Sanskrit, whose name is familiar in America—Pundita Ramabai. She wrote a very touching book about the miseries of Hindu widows, which had a large circulation in the United States, and which called out the sympathies of many American friends, with the result that her earnest desire to found a school and home for child-widows has been carried into execution. The institution, under the name of the Sharada Sadan (a Home of Learning), is established at Poona, and there many widows have, after times of neglect and suffering, found a happy refuge with the kind-hearted and enthusiastic Ramabai. Another widows' home, which is also doing great good, has been started near Calcutta, by Mr. and Mrs. Sasipada Banerjee; and in the Madras Presidency a young Rani, who has lost her husband, has collected a number of destitute widows for daily needlework and maintenance. I could mention many other instances of benevolent activity on behalf of such as in some way or other need help.

Naturally all that goes by the name of higher education in India is not satisfactory. There is, in many cases, a tendency to imitate a superficial aspect of English training and to neglect home duties, and to fail in respectfulness toward elders; but one may hope that this is a passing and transitory phase, and that such a shallow view as to what true education is, and should lead to, will not long be tolerated.

The great struggle is thus going on with varying, though, on the whole, hopeful results. There is little doubt but that higher education for women in India will continue to extend, because the influence of caste and its associate customs is year by year declining. The question as to what will happen in the case of the Hindu caste people and Mohammedans who form the large majority of the millions of India, is less easy to decide. For there are many motives which lead to girls being allowed to attend schools, such as, the desire to please the *Sirkar*, that is, the Government, or to satisfy the missionaries, or to gain favor of some individual. At present there is not much evidence

that the people have any genuine wish that education should make way in their families. We have seen how extremely powerful is the sway of custom in regard to child-marriage and the seclusion of women. At the same time that sway appears to be very, very slowly lessening. It is on the younger generation—on the educated men—that the responsibility as to progress in this direction chiefly rests. As yet their influence on the joint-family is slight, but the time will come when their opinions and wishes will have more weight. Many of this class have visited England, and have been struck with the difference between the position of women there and their own country. They have realized that a wife should be her husband's companion and friend, and that mothers should be wise as well as fond, and it even begins to occur to them that fairness and justice toward the women themselves demand for them facilities of development. Some of these men, however, can speak fluently about education on platforms, while after all they are only what are called "lip-reformers," and when the time of trial comes they succumb to the old influences, which doubtless it is very hard for them to break through. Others again have not the indispensable patience, and try to force reforms on their friends and neighbors, instead of using persuasion, or simply setting an example.

The responsibility is shared also by English people, by those at home, and those in India. English women who live in that country, especially, can do much to cause education and enlightenment to advance. By making the acquaintance of Indian ladies, when it is agreeable that they should do so; by helping to improve methods of instruction; by encouraging teachers; by sympathizing with what is admirable in the existing social system; by learning the vernaculars; by translating books; by working rather *with* the people than *for* the people, in hundreds of ways that feelings of friendliness will suggest, they can help to weaken the hold of injurious customs, to render education attractive, and to introduce more light and health into Indian homes. "The Present, if it shall have the Future accomplished, shall itself commence."

ENGLISH ORPHANAGE AND TRAINING SCHOOL IN BOSNIA, 1869-1892.

BY MISS A. T. IRBY.

My paper is offered to our American brothers and sisters in order to give them some account of an English effort made to promote the education of girls and to raise the status of women in Bosnia and the Herzegovina. These two provinces, in southeastern Europe, were until recently under Turkish rule, but are now, according to the provisions of the Treaty of Berlin, occupied and administered by Austria-Hungary. A Christian Serb population, belonging to the Eastern, commonly called the Greek Church, contributed the majority of the inhabitants. These had remained doubly enslaved and ignorant under the double yoke of Turkish Pashas and Phonoite Greek bishops from Constantinople; while the Latin rayahs belonging to the same race, but divided from their brethren by difference of creed, were somewhat better off under the bishops of the Church of Rome.

When I first traveled in Bosnia in 1862, there was but one Christian girls' school in the two provinces. In some places we found the Mohammedan female children collected together, and taught to repeat prayers and to do embroidery, but there was only that one school for Christian girls, taught by a native Bosnian woman, Halgia Staka, of the Greek Church, the daughter of a Christian merchant of Herzegovinian origin.

In the course of travels in the South Slavonic Provinces* we saw that, while Free Servia and Montenegro had their own schools; while the Bulgarians, not then free, were making every sacrifice for the education of their children, American missionaries† being also at work there; we found that for Bosnia and the Herzegovina there were no American missionaries, and only the one little native girls' school, which I have just mentioned. Therefore we resolved to put our travels to account, if possible, for the good of these people.

On our return home to England, was formed, in 1865, the "Association for the Promotion of Education among the Slavonic Children of Bosnia and the Herzegovina," under the sanction of the Archbishops of Canterbury and York, and Lord Shaftesbury. Dr. Norman MacLeod, in his large-hearted charity, was one of the chief promoters, and in the committee subsequently formed.

The funds raised in England and Scotland for the children of the Slav Christians of Turkey, were at first entrusted to the Protestant German Deaconesses' Institution of Kaiserswerth, which made, *con amore*, the arduous and difficult beginning in 1869, but retired in 1871, since which time I have carried on the work.

Every enslaved nation is characterized by deceit and suspicion. The poor Bosnian rayahs have so long been accustomed to cruelty and injustice that it is not easy to awaken their trust in any disinterested human sympathy. Clinging desperately to their church as the ark of their nation, it was but natural that in this new school, opened by Protestant Deaconesses from Germany, with foreign customs and the observances of another church, they should see an attempt to Germanize and Protestantize their children, and should refuse to send them.

The actual beginning among the poor native rayahs, for whom the school had been founded, was small and very gradual. From the Turkish Government, indeed, we had no opposition whatever. The Osmanli officials were well accustomed to the sight of English and American missionaries in the East, and I think they looked on our little girls' school as a harmless craze, quite below their notice. But it took long to show the Serbs of Bosnia that our aim was neither to proselytize nor to denationalize their children.

One good result of our effort was, that then first the Serb community of Serajevo bestirred themselves to establish their own schools, aided by the protection of the Russian Consul, and with money from Russia. Also for the Roman Catholic community were brought Soeurs of St. Vincent de Paul from Esseg, in Slavonia, originally from a Mother House in the Tyrol. When the school of these nuns was opened I sent to them, much to their astonishment, the only two Roman Catholic children who were in our house. I shall never forget the horror of the good nuns when, accompanied by Halgia Staka, I first paid them a visit. The sight of two such heretics, a native schismatic and the very Protestant whose influence they had come to counteract, was too much for them; they fell to crossing themselves in pious fear. We were afterward on friendly terms, and exchanged various good offices.

The language was one of the difficulties in the beginning of our school. After a time I was able to secure the services of a native Bosnian schoolmaster, who came daily to teach our eight or ten orphans. On one occasion the house was stormed by some Bosnian women, who insisted on taking all the children away, a panic having been raised that the girls were to be carried off the next morning to a foreign country. I let them go with the women, who brought them back after a few days, but I refused to take two or three of them. Before long more children were brought than it seemed prudent to take in.

* See Travels in the Slavonic Provinces of Turkey-in-Europe, by G. Muir Mackenzie and A. P. Irby, with Preface by the Right Hon. W. E. Gladstone.

† The Robert College (American) proved a mighty factor in the preparation for Bulgarian freedom.

The education given, and the aim and spirit of the teaching, were such as were indicated in the first statement of the Association, issued in 1868: "In the school which it is proposed to found, reading, writing, arithmetic, history, geography, plain work, cooking, and care of health, would be among the branches of instruction; but the principal aim would be to give the girls a sound, useful education, based upon the doctrine of Christ, and so not only to effect a gradual elevation of their intellectual and social condition, but also to prepare them to be the future teachers of their countrywomen."

Thus the little school continued until the Bosnian revolution of 1875-78. Civil war in the land rendered the position of Serajevo so uncertain that we removed the elder girls to Prague, in Bohemia, there to attend the Higher Girls' School, living under the care of our own English matron and teacher, who remained in Prague. Miss Johnson, who was at that time my kind helper and coadjutor, returned with me to England, to start a special fund for the suffering fugitives, which was initiated by a donation of £50 from Florence Nightingale, whose loving interest in the work has been unflinching. During those three years, and the two following, in the excitement of public feeling roused by the Bulgarian massacres, was collected for the "Bosnian and Herzegovinian Fugitive and Orphan Relief Fund," the sum of £40,912 3s. 4d., which, together with Miss Johnson, I administered on the frontiers, distributing corn and clothing, establishing schools for the children of the fugitives, and feeding and clothing many starving parents, as well as their children. Some 200,000 fugitives (I quote from the official account) fled across the Bosnian frontier into the neighboring provinces of Croatia, Slavonia, and Dalmatia.

After the establishment of peace, and the occupation of Bosnia and Herzegovina by Austria, the wretched fugitives who remained alive—scarcely one half of the entire number—returned to their own land, mostly to find their huts burned down and destroyed, and their fields untilled. In the little schools on the frontiers, our aim had been that every boy and girl should learn to read and write, and to know a little arithmetic. Now that the schools were closed, and the children were going back, each one who could read well enough was given a Bible or Testament, and a little book. We returned to our schoolhouse in Serajevo. Thither we gathered many orphan children of the fugitives, both girls and boys, placing most of the latter in a neighboring Turkish house, which we had purchased for the purpose; and some few with Halgia Staka. The boys could be sooner sent out into the world to earn their own living, or passed on into the gymnasium and the training school for men teachers now established by the Austrian Government.

Out of the fifty-two or more boys whom we sheltered at Serajevo, several are now schoolmasters, many are in trades, and others earning their bread in various ways.

The Austrian Administration is introducing in Bosnia a similar school system to that which obtains in the Austrian Provinces. Girls and boys who are candidates for places as schoolmasters and schoolmistresses in the Government "*Properandija*," or training school for teachers at Serajevo, by passing the first examination are entitled to become what are called "assistant teachers." This does not mean that they are under teachers in the school which they are given, but it means that they must send in and prepare a very full plan and report of the lessons for every day in the school year.

The second examination, which is mainly a repetition of the first, after one or two years of teaching in a school, gives them the rank of "*sorsene*" or complete teachers, higher pay, the right to a retiring pension, and it exempts them from the laborious preparation of the school scheme.

It is not within the scope of my paper, to criticise or comment upon the Government examination. I have to recognize the fact that the girls in our house who have the capacity to become teachers, must be brought in with the requirements of the examiners if they are to get a Government school. The examination is exceedingly hard, and

includes a great variety of subjects ; geography, history, arithmetic, algebra, geometry, logic, literature, German, physics, botany, zoölogy, chemistry, pedagogy, music, and singing, and for girls, also needlework and domestic economy. It is evident that some of the subjects must be taught by the teachers or professors from the gymnasium or from the "*Properandija*," and I find the expense of these lessons is so great that it is doubtful whether I shall continue them.

I have here given a slight sketch of our work from its beginning until now. I have described our first attempt to train native schoolmistresses for the poor Bosnian rayahs in the Turkish times ; then I have spoken of our schools for the children of the Bosnian fugitives on the frontiers during the insurrection and the civil war ; and now of the still continued "Orphan and Training School" in Serajevo, under the very different conditions of the present Austrian occupation and administration. The Home, the orphanage, is as greatly needed as ever, and the true idea of a training school in its moral as well as intellectual bearing reaches beyond the mere equipment for school examinations.

When the examination is over, and the Home quitted, some friendly moral aid is as sorely needed, as it is difficult to render, for the girl teacher sent forth to sink or swim in the miry waters which overflow every rank of society in Eastern Europe. The young schoolmasters and schoolmistresses have a wide influence for good or for evil, by their teaching and by their example. They stand in the midst of temptations, for the most part wholly without uplifting aids around them, and without any adequate moral control.

ELEMENTARY AND SECONDARY EDUCATION IN CAPE COLONY, AFRICA.

BY MISS MAY BENGOUGH.

THE first attempt of Government to provide for education in Cape Town, Africa, dates from about 1840, when, in accordance with a suggestion of Sir John Herschel, a certain number of public schools were established in some of the principal towns. These Herschel schools provided an entirely free education for what were then known as the "burghers' children," and were altogether Government institutions ; no local bodies had either voice in the management or share in the expenses. Their failure seems to have been due in part to questions of expense, in part to a suspicion of political motives concealed behind the scheme, in part to the want of interest among those whom it was intended to benefit, resulting from their being debarred from all active participation in the scheme. Fail, at any rate, they did, within some fifteen years of their foundation.

But even before the failure had become manifest, the aided system, which at present obtains favor throughout the colony, had come into existence. Grants were asked for and made, in the first instance, in support of the mission schools connected with the various religious denominations, and by degrees the whole of the public education of the colony came to be worked on the same lines. The schools assisted by a grant from Government, greater or less according to their class, are, speaking roughly :

(1) Undenominational public schools of three grades, the third grade consisting of schools established in villages only. (2) Mission schools. (3) Farm schools. (4) District boarding-schools.

The development of the railway system during the last five or six years has necessitated the establishment of a special class of railway schools. These, I believe, are exclusively Government institutions. With this exception, schools of all the above classes are established originally by local enterprise, as the need may arise ; they are

governed by a local board of management, elected from among the individuals who are personally or philanthropically interested in starting the school ; and this board is responsible for any deficit. There is not, anywhere in South Africa, anything of the nature of a school-rate, and it would seem to be the general opinion that neither for this nor for school boards, in the English sense, is the country yet ripe.

Neither, as yet, is there any kind of compulsion in the matter of attendance, but it is becoming a question of serious consideration whether some law should not be enacted to that effect. Under present conditions there are difficulties in the way of the *general* application of any such law, but every year makes it more imperative that, for the larger towns at least, some attempt should be made to remedy the growing evil of irregular attendance, or, in too many cases, of no attendance at all.

With regard next to the class of education provided. It were vain to pretend that South Africa is anywhere in the van of educational progress. It were equally unjust to accuse her of being hopelessly in the rear; an average place in the main body may perhaps be assigned to her, and considering the multitudinous difficulties which beset the matter in this country, such a place is more creditable than might appear at first sight. Difficulties of race, of language, of a sparse and scattered population ; and of all the States which compose South Africa there is none in which all these difficulties combined are more felt than in the Cape Colony. In the Orange Free State, for instance, the difficulty of providing for a widely scattered population may be even more felt than in the older colony : on the other hand, the Free State Government does not profess to make provision for the educational requirements of any but the white population, which reduces at once the responsibility and the expense. Natal has practically no "colored" population—no population of mixed race—to provide for; whereas in the Cape Colony out of 70,000 (*circa*) children of school age some 16,000 are returned as of "mixed race," while Malay, Hottentot, Fingo, and Kaffir scholars bring the non-European total up to 30,000. Under all these circumstances it is not perhaps surprising that the general standard of elementary education is not high, that the methods are often antiquated, and that in many cases the teacher is guided by no light much newer than that of nature.

When the appointment is not made a family job (as in the case where it was given to the grandmother of the clan), it is not infrequently the last resource of the broken-down adventurer—"gentleman once," or *not*, as the chance may be—who is willing to estimate his services at no higher a rate than they deserve. But in all such cases Government has no remedy at present ; it has no voice in the appointment, the only privilege reserved for it is to pay. But it is to the daughters, not to the sons of the soil, that the country must look for its future educators. The Colonial youth has but most rarely any taste for the scholastic profession. Even if he has been at the pains to qualify himself as a teacher, in nine cases out of ten he will not hold out above a year or two ; he prefers some means of gaining a livelihood more free, more speculatively remunerative perhaps, less monotonous certainly, than that of a schoolmaster. The Normal College at Cape Town is doing excellent work in training youths for an educational career ; but the testimony of the principal is in substance that given above : they scarcely ever persevere in it.

It must be admitted that even in the villages and towns there is little to be found that can justly be called scientifically conducted education. In most of the first-class public schools a modified form of kindergarten teaching exists, but public opinion is by no means educated up to the idea. Parents and guardians are apt to feel themselves defrauded by any system which does not carry its credentials in the visible form of a spelling-book.

In the higher standards all the educational authorities of the colony are beginning to recognize and deplore that the teaching hitherto has been much less education than

"cram." The system is too little elastic ; and the standards might be more judiciously graded, intelligent children being often kept needlessly long at merely mechanical work. Standard III. is the first that makes any provision for the teaching of geography ; while the work in this subject expected from Standard IV. is out of all proportion to the humble requirement of Standard III. Also, far too little attention is given to English composition, nothing being done in this line before Standard V. Yet few subjects could be more practically useful in a country where the difficulty of preserving the language even tolerably pure is almost insuperable ; where children considerably above the lowest ranks of society speak English as a literal translation of Cape-Dutch idiom ; where such phrases as " He threw me with a stone ! " " I have left my book by the house ! " or " The cat make the mouse dead ! " are scarcely noticed as incorrect ; while the entire absence of inflections in this patois (it would be a libel on Dutch to call it a language) adds difficulty to the composition of the most ordinary letter in English. All the above remarks apply with equal force to the grammatical writing of Dutch itself. The only advantage a Cape-Dutch-speaking child starts with, if taught in the beloved "Taal," is a larger vocabulary than it may perhaps possess in English ; so far as it is *grammatical*, the Cape-born scholars must acquire Dutch like any foreign tongue.

This battle of the languages—Dutch or English as the medium of instruction—is being fought rather vigorously just at present ; fought with a vigor on the part of the supporters of Dutch which looks a little like the energy of despair. No doubt there is reason in contending that a child whose school-life is of the most limited length should be taught for the brief time in which it is under instruction, in the language which, so far as actual vocabulary goes, is most familiar to it. This is reasonable, and no one wishes to prevent it. No one wishes to suppress Dutch after the high-handed fashion in which the Dutch themselves suppressed the French language in the case of the Huguenot refugees in South Africa. Every provision is made for the examinations and inspection of schools in which Dutch is the recognized medium of instruction. To go further, to make the Dutch obligatory, would be as unjust to the upgrowing population as it would be to forbid the language altogether. For the rest the problem may safely be left to work itself out in the natural course of events.

Of other elementary subjects: Arithmetic, so far as regards speed and accuracy in the manipulation of figures, is a fairly strong subject ; but here again the teaching is mechanical. Elaborate sums can be worked quickly and correctly, so long as the pupil is told by what rules to work them. But set before him some quite simple problem and leave him to find out the rule applicable to the case, and the result will be too often surprising. If this is the case in government-aided inspected schools, I would gladly draw a veil over much that goes on under the name of teaching arithmetic in private schools ; over the valuable time spent in copying neatly into an exercise book sums fully worked out—not by the pupil—upon the blackboard. Yet such an exercise book full of sums, though it does not even imply a knowledge of the multiplication table, is too often a source of pride and joy to parents.

With the last few years vocal music has been added to the curriculum in elementary schools ; but as a science it is still very much in its infancy, and as an art—with some honorable exceptions—there is too much tendency to consider volume rather than quality of sound as the thing to be aimed at. However, there are signs of improvement in this branch.

The very important subject of needlework, too, is only just beginning to receive the attention which it deserves, and very much remains to be done in this department. The show of plain needlework from the Public and Missions Schools of the Colony, at the late Kimberley Exhibition, taken as a whole, was decidedly disappointing.

Secondary Education.—This is so wide a subject that it is difficult to say exactly where it stops ; at what point secondary education passes into something higher. The

Cape of Good Hope University, established by Royal Charter in 1873, is entirely an examining body; it does not profess to teach. It confers degrees, but the examinations on which these depend are prepared for by the student in private study. Perhaps the two annual school examinations held by the University—the elementary and the higher—may be taken as representing the standard of secondary education in the Colony.

The elementary examination requires the candidates to satisfy the examiners of their proficiency in :—

(a) *The English Language*, including writing passages from dictation, parsing, etymology, analysis, English composition.

The school higher examination is equally without restriction of age, but is considerably higher in its requirements, both as regards the difficulty of the papers and the range of subjects, including a choice of classical and modern languages in Group I., and of mathematics and physical science in Group II. The proportion of candidates entered respectively for the elementary and higher examinations in 1891 sufficiently indicates the difference in the standard required. In the elementary 1,614 were examined, in the higher 370. Of the elementary candidates, 641 failed, the greater number in history and English; of the higher, 91. An inspection of the number of candidates presented in the higher for the choice subjects in Group II. shows science to be very much at a discount among our Colonial youth. Against 293 examined in geometry, only 57 were examined in physical geography; below this came animal physiology with 19 candidates; the remaining subjects—botany, mechanics, light and heat—found not even half so much favor as this, while chemistry could not boast of a single candidate. In view of the complaint made by the examiners on another occasion, that the chemistry candidates seemed to have no experimental knowledge of their subject, perhaps this indifference is scarcely to be wondered at. Chemistry acquired chiefly from a textbook cannot be a very exhilarating branch of study.

Beyond these two examinations, most of the better class of schools prepare pupils for the Matriculation Examination, to pass which does imply that the candidate has a satisfactory amount of education, and something even of culture. In 1891, out of 228 candidates, 142 passed.

All the above examinations (and, I believe, all the others connected with the Cape University) are open to both sexes; and it is satisfactory to relate that the girls and women of the Colony fully hold their own in the contest. In fact, the education of women in the Colony is perhaps better provided for, on the whole, than that of men. Such educational establishments as have been started by foreign enterprise (exclusive of missionary institutions for natives) are almost all for girls. For these the Colony is chiefly indebted to America, the principal centers being at Wellington and Stellenbosch.

I much regret that coinciding holidays have always prevented me from seeing any of these schools in working order; yet perhaps any detailed account of their working would be out of place in a paper of this kind, seeing it would, after all, be an account of an imported system which owes nothing, either in idea or method, to Colonial influence. The work done is far from being limited to bare intellectual training. It was pleasant and encouraging to hear the other day, from a visitor to one of these schools at Stellenbosch, that, seeing the dormitory walls curiously studded with nails, and asking the reason, the principal replied that they were for pictures and ornaments which the pupils were encouraged to procure and arrange for themselves. These articles were, at the time, put away for purposes of holiday cleaning; but it was the principal's idea that as important as anything in the education of the Colonial girls, was the cultivation of a taste for pleasant prettiness, to know how to arrange and decorate a room, how to adorn life: things which the monotony and isolation, the materialness, the rough-and-ready

manners within, the featureless barrenness without, of an up-country farm, can certainly never teach, yet which they are so much needed to relieve and to refine.

In conclusion I would repeat, that if this brief account of the condition of education in South Africa conveys no very high idea of our stage of progress, it must be remembered that we are but a young people, scarcely indeed, as yet, one homogeneous people at all. There is much to be done, but we are at least conscious that it needs doing. More favored countries may better wish us good-speed for the future, than deride us for the slowness of our progress in the past.

PUBLIC INSTRUCTION IN ITALY.

BY DR. EGISTO ROSSI, ROME.

PUBLIC instruction in Italy is regulated by law of November, 1859. This law has been modified, however, by royal decrees and by later laws. The educational system comprises three grades: elementary, secondary (including classical and technical schools), and superior. There are also infant schools which aim to give the rudiments of an education to children between three and six years of age, the later being the earliest age at which children are admitted to the primary grades.

Private individuals of known moral character and capability are permitted to open infant schools and those of elementary and secondary grade, providing the locality in which the school is to be opened is satisfactory, from a hygienic point of view, to the authorities.

Infant Schools.—The compulsory education laws do not apply to the infant schools. These schools are founded by the communes, by corporations, associations, and private individuals. Many of them are autonomous in character, possessing their own revenues, which accrue from perpetual funds and donations. Other schools are supported entirely by the individuals or corporations founding them.

Almost all these schools receive subsidies from the commune, provinces, and the State, in addition to the funds received from the sources mentioned above. The children receive gratuitous instruction in the majority of infant schools; in a few, a small fee is charged, the means of the family being taken into consideration in making such charge. In 1889 the communes gave \$317,532 to the infant schools; the State, \$8,685.

Elementary Schools.—The elementary schools are in charge of the communes and are under the supervision of their administrative officers. In conformity with the law they are gratuitous and are maintained by subsidies from provincial and communal funds. In accordance with special laws the State aids in such support by subsidies for construction and repairs and for teachers' salaries. The State is authorized to favor communes, which are too impoverished to construct school buildings, by giving subsidies for such buildings, and by giving aid, either by loan or gift, if there is any special reason for so doing. If any loans have been made, the State undertakes to reimburse the institution loaning said fund by adding thereto a normal interest.

The elementary schools are frequented by children from six to twelve years of age. These schools are divided into two grades; the lower grade, which extends through three years, is subdivided into three classes; the highest grade into two classes, equivalent to a two years' course. The course of study includes writing, elementary arithmetic and the metric system, history of Italy, elements of geography, natural history and physics, civic education, and gymnastics.

All the communes are required to establish lower-grade elementary schools; communes of four thousand inhabitants and over are required to establish those of the higher grade. In these larger communes there must also be institutions of a secondary grade.

By law of July, 1877, which carried out the provisions of the law of 1859, parents were obliged to send their children between six and nine years of age to the elementary grades unless they could show cause for instruction at home or in private schools. This compulsory education act could be carried on beyond the ninth year if the pupil, when called up for examination at close of the course, did not indicate knowledge of the studies in the lower grade elementary schools.

By degree of February 16, 1888, pupils of both public and private schools, and those who obtain home instruction, must receive a certificate of having passed such final examination before they can be placed on the registration list for the holding of political or administrative office. Parents and guardians who fail to conform to the above regulations are subject to censure from the syndie, and in case of further non-compliance they are subject to a fine of not less than \$2.50.

By law of July 15, 1877, which went into force in October, 1877, each commune is required to have a certain number of teachers, trained for duty in these lower-grade elementary schools. This number is to be proportionate to the population.

Normal Schools.—The normal schools serve as preparatory schools for teachers of the elementary grades. The State provides the funds for the teaching force and for scientific apparatus. The remaining expenditures and those for the "*Convitti*" (establishments where pupils are boarded and lodged) are paid by the provinces and communes in which the normals are located.

There are still other schools of this character for the training of teachers which are maintained exclusively by provinces and communes, by corporations or individuals, while some receive State subsidies.

The normal schools are of higher and lower grades for men and women. The lower-grade normal schools have only the power to confer a diploma as teacher for the three lower classes of the lower-grade elementary schools. The higher-grade normals, on the contrary, confer the diploma required to teach in the elementary schools of both higher and lower grade. In the normal schools for women a certificate or diploma is also conferred which permits its holder to become a teacher in, or directress of, an infant school. Instruction in the normal schools is gratuitous; the course is of two years in the lower-grade normals, of three years in the higher-grade normals, and is preceded by a preparatory course of three years.

An examination for admission is required of those who wish to enter the normal schools. Each normal has a practice school attached, in which the pupil can obtain practice in teaching. The normals for women have also an infant school attached, which school is divided into three sections.

Persons desiring to obtain a teacher's position in the elementary schools are appointed by the communes (which pay them), after competing for such position in the competitive examination before the Provincial School Council; this council, after examining as to their qualifications, presents the list of persons eligible to such positions, and the Communal Council has, as its duty, to select and appoint the teachers.

To determine the minimum legal stipend for teachers, the elementary schools are divided into two categories, urban and rural, and each of these categories into three classes in accordance with the wealth and population of the commune. The minimum legal stipendia according to the law of April 11, 1886, are as follows:

			First Class	Second Class.	Third Class.
City Schools	{ Higher	{ Men	\$254	\$213	\$193
		{ Women	203	170	152
	{ Lower	{ Men	193	183	173
		{ Women	152	146	139
Rural Schools	{ Higher	{ Men	173	164	152
		{ Women	139	131	123
	{ Lower	{ Men	152	144	135
		{ Women	123	115	108

These stipends are augmented one-tenth for every six years of service in the same commune until the salary has been increased four times.

There are other institutes auxiliary to, or complementary to, those for elementary instruction. Among the first mentioned are two "*convitti*" (establishments where pupils are boarded and lodged, and which have elementary schools attached) for the orphans of elementary teachers, and the institutions for the blind and deaf mutes; among the second are comprised the "*convitti*," the educational institutions for girls, and the two higher-grade normals for girls.

Secondary Classical and Technical Instruction.—The aim of secondary classical instruction is to train young men in the studies requisite for acquiring the literary and philosophical knowledge which entitles them to enter upon special studies leading to the academic grades of a university. These branches of instruction are imparted in the "*ginnasie*" (lower-grade classical schools) in a five years' term, and in the "*liceo*" (higher-grade classical schools) in a three years' term. In order to be admitted to Class I. of a "*ginnasio*" the student is required to pass an entrance examination in the branches of the higher elementary grade, and in order to be admitted to the first year of a "*liceo*" it is necessary to possess a gymnasial license (*licenza ginnasiale*); while the license of a *liceo* (*licenza liceale*) is required for admittance to a university course.

The "*ginnasi*" are supposed to be supported by the communes, and in some provinces the State maintains them in accordance with special laws. The "*licei*" are supported by the State as far as the expenditures for teachers and scientific material are concerned; the expenditures for the buildings and furniture are borne by the communes.

The State, either by law or by special agreements with the communes or other corporations, coöperates in maintaining the "*ginnasi*" and non-governmental "*licei*." The communes, other corporate bodies, and private individuals support similar institutions.

The State, moreover, maintains the "*convitti*" annexed to the governmental "*ginnasi*" and "*licei*;" and by law, or special agreement, the State also subsidizes other "*convitti*" whose maintenance would naturally belong to a province, commune, or to a corporate body or association.

The aim of technical professional instruction is to impart to young men, who are ambitious to enter upon a specified career in the public service, *i. e.*, in industrial, commercial, and skilled agricultural pursuits, such general and special knowledge as is requisite for the carrying on of these pursuits. This knowledge is acquired and taught in technical schools (*scuole tecniche*), technical institutes (*istituti tecnici*), and in the institutes for the mercantile marine. The course of instruction in technical schools lasts three years, at the end of which a diploma (*licenza tecnica*) is given to the successful candidates; this diploma is required for admission to a technical institute or to an institute for the mercantile marine service. In the technical institute the instruction is divided, according to the profession to be pursued, into five sections, namely, physico-mathematics, land surveying, agriculture, commerce and trade, and industrial pursuits.

The courses last four years, and are divided into two biennial periods: one common to all sections, and one special course for each section. In the institute for the mercantile marine service the instruction is divided into six sections, *viz.*: as captains for the coast service, naval constructors of the second class, and machinists of the second class, a two years' course; captains for long-distance courses, and naval constructors of the first class, a three years' course; and machinists of the first class, a four years' course.

The diploma of the physico-mathematical section entitles, as does the "*licenza liceale*," to admission in the faculty for physical, mathematical, and natural sciences, of a university.

The maintenance of the technical schools is imposed upon the communes where they are established. The State pays half of the teachers' expenses, however. In some cases, in accordance with special laws, the technical schools are entirely in charge of the

State. The State also subsidizes technical schools which are in the main supported by the communes, provinces, and corporate bodies or associations.

The expenditures for the technical institutes and for those of the mercantile marine are borne in part by the State, which pays half of the expenses for the teachers and other employés. The expenditures for buildings and non-scientific material are furnished by the communes where the institutes are situated. The expenditures for classical and technical schools, and for the "*convitti*" for boys' boarding schools annexed to a secondary school, were accredited as follows to the State, communes, and provinces during the years 1888-89 and 1890-91 :

1888-89. Provinces	\$447,128
" Communes	1,396,698
1890-91. State	2,389,307

Technical, industrial, and professional instruction is imparted in institutes and special schools, such as practical schools of agriculture, agrarian schools, industrial schools, schools of art and trade, and professional schools.

The expenditures of this class of schools are paid in part by the State, which, through subsidies given to the ministry of agriculture, industry, and commerce, in accordance with special laws to that effect, coöperates with the provinces, communes, and corporations. In order to be admitted to these schools it is necessary to have successfully finished the elementary course or to have passed an examination for admission.

During the school years 1888-89 and 1890-91 the expenditures for this class of schools were distributed as follows :

1888-89. Provinces	\$125,677
" Communes	325,498
1890-91. States	439,655

Superior Instruction.—The highest grade of education is furnished in the universities, the superior institutes, and in superior special schools. The "*Istituti Superiori*" include the schools for engineers, veterinary schools, the literary and scientific academy, the higher normal school for instruction in literature, and the superior institute for the perfecting of higher studies in Florence with its university faculties. The universities comprise four faculties : law, philosophy and letters, physical, mathematical, and natural sciences, and medicine and surgery. In some universities the schools of pharmacy and veterinary schools are annexed to the faculty of medicine and surgery. Not all universities have four faculties. The degree of doctor (*laurea*) is conferred in each faculty at the close of the course. In the higher institutes there are faculties, or sections of faculties, where doctors' degrees are conferred at the close of the course. In the special schools diplomas are given for subjects taught there.

The superior special schools are : The superior commercial school, whose purpose it is to prepare young men for the management of banking and commercial institutions, or for the career of consular agent in foreign countries, or for the position of instructor in the science of economics in technical institutes; the superior agricultural schools, which prepare teachers of agricultural sciences and promote agricultural interests by means of experimental researches; the superior naval school, for the training of naval and hydrographic engineers and naval constructors; the institute of forestry, for training persons as forestry inspectors; and the industrial museum, for training mechanical engineers (*ingegnere industriale*), and for training in the studies of chemistry and special branches of mechanics and physics.

The expenditures for universities and superior institutes are in charge of the State, and are included in the budget of the Ministry of Public Instruction. The revenue and property of these institutions aid in their maintenance, and the fund is added to that administered by the State.

Some provinces coöperate, by means of special contracts (*consorzi universitari*), with the State in the payment of expenditures for the increase of scientific apparatus, for the annexed schools, for the laboratories and collections of the universities which are located in the respective provinces or communes. Some provinces and communes also aid in maintaining the superior institutes.

There are seventeen governmental universities, and four called "free" because they are maintained by the provinces and communes where they are situated; the superior institutes are governmental, and are eleven in number. The superior special schools are also eleven in number, and are maintained by the State, the fund being included in the budget of the Ministry of Agriculture, Industry, and Commerce, in conjunction with the provinces and communes where they are situated.

The two superior institutes for the education of women are dependent on the Ministry of Public Instruction, to the accounts of which the expenditures are charged.

The expenditures borne by the State for universities and other institutes and special schools amounted to \$2,077,959 for the school year 1890-91, which sum was included in the budget of the Ministry of Public Instruction, and \$112,905 in the budget of the Ministry of Agriculture, Industry, and Commerce.

The amounts contributed by the provinces and communes to the funds of universities, superior institutes, and superior special schools, are added to the provincial and communal budgets. This fund is separate from the amounts furnished by the associations or corporate bodies for the general increase and progress of studies. To this latter amount the provinces furnished \$457,811, and the communes \$829,190 for the year 1888-89.

But the State revenues for this year indicate that the provinces and communes will only coöperate to the extent of \$152,536 in the maintenance of universities and other superior institutes administered by the State.

The superior special schools, as has been mentioned before, are founded and maintained conjointly by the State, the provinces, and the communes, and are managed by local commissions, which include in their membership representatives from the corporate bodies which aid in the maintenance of said institutions.

NEEDLEWORK IN THE PUBLIC SCHOOLS OF STOCKHOLM.

BY MRS. HULDA LUNDIN, SUPERINTENDENT OF NEEDLEWORK, STOCKHOLM,
SWEDEN.

EDUCATIONAL methods of the present day demand that instruction in general shall be given according to a carefully considered plan, which shall be at the same time *simple, logical and progressive*. It is not sufficient to give out lessons to be committed to memory; these must also be thoroughly explained and illustrated by the teacher. Suitable mediums of instruction must be sought and class-teaching maintained in order to insure thoroughness and inspire interest.

It is a matter of great satisfaction that these principles have been adopted in all instruction from books; but if one examines the method heretofore employed in manual training—training whose educational value can hardly be overrated—the strange fact is discovered, that, as a rule, not one trace of the intelligent principles governing instruction in other subjects, is to be found here. Therefore, while instruction in all other branches has developed, that in manual training has remained in its old elementary condition.

Manual training has been regarded as an outside branch, not subject to the same laws as other educational branches, whereas it ought to stand side by side with them, because it has the same educational aim to fulfil.

The aim of the instruction in Girls' Sloyd (this term embraces in Sweden all kinds of handiwork) is:

- I. To exercise hand and eye ;
- II. To quicken the power of thought ;
- III. To strengthen love of order ;
- IV. To develop independence ;
- V. To inspire respect for carefully and intelligently executed work ; and at the same time
- VI. To prepare girls for the execution of their domestic duties.

The instruction has two objects in view : (a) It shall be an educational medium ; (b) It shall fit the girls to practice life.

But if the desired aim is to be reached, the fundamental principles of pedagogics must be applied to manual training.

Formerly satisfaction was felt with purely mechanical skill in manual training, when the only thought was to procure even beautiful stitches in sewing, while the practical skill required in measure-taking, cutting out, and planning a piece of work was wholly neglected.

The introduction of the sewing machine has developed entirely new conditions. We must now teach our pupils something the machine cannot perform, namely : to take measures, to draw patterns, to cut out, to put together and to arrange garments ; also to train them to skill in darning, mending, and marking, at the same time that we teach them to take correct stitches. This desired result is not easily attained, but experience has proven that it is best reached by :

- (1) Practical demonstration on the subject ;
- (2) Progressive order with regard to the exercises, and
- (3) Class instruction.

(1) Practical demonstration in sewing is accomplished by means of a sewing frame (*plansch*), and in knitting by means of large wooden needles and colored balls of yarn. At the same time blackboard drawings are constantly being made. "With a piece of chalk and a blackboard a teacher can work wonders," I once heard a clever teacher say. Even if this was somewhat overstated—as I readily admit—it is nevertheless true that a teacher who understands the value of these media, can by their help reach remarkably good results. French schools furnish fine proof of this.

As no one is born a master, and as we cannot afford to cast away material at hand, it is necessary, until skill is obtained, to make use of preparatory exercises ; but much judgment must be exercised in their use.

I consider it to be a great mistake to keep pupils engaged, term after term, with preparatory exercises, which they may not put into practice till long after, and by the time they are needed have perhaps forgotten. As soon as an exercise is well learned it should be applied to something useful, either in the school or at home. In this way the pupil's interest is awakened and strengthened. The child will, in such a case, see a result of its work such as it can understand. And, moreover, the parents' sympathy with the instruction is won.

(2) Progressive order with regard to the exercises. The exercises are planned and carried out in the most strictly progressive order, so as to enable the pupils to execute well the work required of them. Nothing is more discouraging to see than a badly executed piece of work. "One cannot expect more of a child," is given as a kind of excuse. This may sometimes be true, but one can expect that a teacher will not give a child exercises beyond its capabilities, and before which it must fail. To fail continually has an injurious effect on a child's character.

No ; let us take simple exercises, let us execute them well, have our aim well in view, and not be discouraged even if the result looks plain and simple. In other words, in

manual training, as in other subjects, there should be a systematic plan which is simple, logical, and progressive.

(3) Class instruction. When instruction became obligatory in our schools, and it was necessary to have from thirty to forty pupils, and sometimes more, in one class, class instruction became an absolute necessity, and it was soon found that development of the individual was better secured through its means than when each pupil received instruction by herself. Strange enough, one subject,—manual training—remained unreformed, to the great injury of the subject; for, by appealing to the whole class at once, a teacher can secure the attention of her pupils and awaken a lively interest in the work. Her teaching can then be deep and interesting. The teacher finds time to talk about form, size, and reason for doing this or that. Yes, the pupils even find time to think out why things shall be so and not so, and discover the best way to carry out an exercise. In this way the instruction becomes both developing and educating, and the pupils lay a firm foundation on which to build further in the future.

But class teaching is only an effect, and should not be an aim. One must not have the mistaken idea that the teacher is to guide every step. Far from it. It is only the new in every exercise which should be explained to the whole class. After the pupils have learned through explanation and illustration what they must do, and how they shall do it, they should work independently of each other. Meanwhile the teacher should go around the class and notice whether all the pupils are performing correctly the required exercises. She should at the same time observe the position of hand and body, also whether the pupils hold their work at a proper distance from their eyes, so that they may not gain skill at the expense of their eyesight.

The teacher of manual work should not only instruct, but also educate the pupils as well. Therefore the choosing of teachers is not an insignificant matter. Besides manual dexterity, teachers ought to be possessed of pedagogical skill. Therefore, for the training of teachers in manual training either special normal schools should be established, or—what without doubt is better—existing normal schools should place manual training in their curriculum on an equal footing with other branches of education. That is now done in Sweden, and in several other countries in Europe.

Not only girls, but the younger boys, should be instructed in girls' sloyd. The boys should be taught this because it introduces variety and interest, trains the hand and eye, and renders them able, in case of necessity, to darn their stockings and mend their garments.

From the foregoing we deduce the following :

(1) Practical demonstration in sewing is accomplished by means of a sewing frame, and in knitting by means of large wooden needles and colored balls of yarn. At the same time blackboard drawings are constantly being made.

(2) The exercises are planned and carried out in the most strictly progressive order, so as to enable the pupils to execute well the work required of them.

(3) The instruction in sloyd should—like that in other branches—be given to the whole class at the same time, otherwise the time which the teacher could devote to each pupil separately would be insufficient to secure the desired results.

In order to illustrate the progress from the simple to the more complex in the teaching of sloyd, we give the following class divisions of the subjects which are in use at the present time in the public schools of Stockholm.

School age : seven to fourteen.

GIRLS AND BOYS.

Class I.

- (1) Plain knitting with two needles ; a pair of garters.
- (2) Plain knitting : a pair of warm wristlets.

Class II.

(3) Plain knitting ; a towel—practice in the different kinds of stitches ; running, stitching, hemming and overcasting ; a lamp mat.

(4) The application of the already named stitches ; one small and one large needlework bag.

Class III.

(5) A needlework case. Simple darning on canvas ; a mat for a candlestick.

(6) An apron.

GIRLS.

Class IV.

(7) Plain and purl knitting ; slate eraser and a pair of mittens.

(8) A plain chemise.

Class V.

(9) Knitting ; a pair of stockings.

(10) Drawing the pattern, cutting out and making a chemise.

Class VI.

(11) Patching on colored material. Plain stocking-darning Buttonholes. Buttons made of thread. Sewing on tapes, hooks and eyes.

(12) Drawing the pattern, cutting out and making a shirt or a pair of drawers.

Class VII.

(13) Fine darning and marking. Drawing the pattern for a dress. Cutting out articles such as are required in standards II.-IV.

(14) Drawing the pattern, cutting out and making a dress.

The time given to needlework :

Class I.....	2 hours a week.
“ II., III. and IV.....	4 “ “ “
“ V. and VI.....	5 “ “ “
“ VII.....	6 “ “ “

NATIONAL EDUCATIONAL ASSOCIATION.

CONSTITUTION

OF THE

NATIONAL EDUCATIONAL ASSOCIATION.

PREAMBLE.

To elevate the character and advance the interests of the profession of teaching, and to promote the cause of popular education in the United States, we, whose names are subjoined, agree to adopt the following

CONSTITUTION.

ARTICLE I.—NAME.

This Association shall be styled the National Educational Association.

ARTICLE II.—DEPARTMENTS.

SECTION 1. It shall consist of ten departments: The first, of School Superintendence; the second, of Normal Schools; the third, of Elementary Schools; the fourth, of Higher Instruction; the fifth, of Industrial Education; the sixth, of Art Education; the seventh, of Kindergarten Instruction; the eighth, of Music Education; the ninth, of Secondary Education; the tenth, of Business Education; and a National Council of Education.

SEC. 2. Other departments may be organized in the manner prescribed in this Constitution.

ARTICLE III.—MEMBERSHIP.

SECTION 1. Any person in any way connected with the work of education, or any educational association, shall be eligible to membership. Such person or association may become a member of this Association by paying two dollars and signing this Constitution, and may continue a member by the payment of an annual fee of two dollars. On neglect to pay such fee, the membership will cease.

SEC. 2. Each department may prescribe its own conditions of membership, provided that no person be admitted to such membership who is not a member of the general Association.

SEC. 3. Any person eligible to membership may become a life-member by paying at once twenty dollars.

ARTICLE IV.—OFFICERS.

SECTION 1. The officers of this Association shall be a President, twelve Vice-Presidents, a Secretary, a Treasurer, one Director for each State, District or Territory

represented in the Association, and the presiding officers of the several departments and a Board of Trustees to be constituted as hereinafter provided. Any friend of education may become a life-director by the donation of one hundred dollars to the Association at one time, either by himself or on his behalf; and any educational association may secure a perpetual directorship by a like donation of one hundred dollars, the director to be appointed annually or for life. Whenever a life-member desires to become a life-director, he shall be credited with the amount he has paid for his life-membership.

SEC. 2. The President, Vice-Presidents, Secretary, Treasurer, Trustees, Directors, Life-Directors, President of the Council, and presiding officers of their respective departments shall constitute the Board of Directors, and, as such, shall have power to appoint such committees from their own number as they shall deem expedient.

SEC. 3. The elective officers of the Association shall be chosen by ballot, unless otherwise ordered, on the second day of each annual session, a majority of the votes cast being necessary for a choice. They shall continue in office until the close of the annual session subsequent to their election, and until their successors are chosen, except as hereinafter provided.

SEC. 4. Each department shall be administered by a President, Vice-President, Secretary, and such other officers as it shall deem necessary to conduct its affairs; but *no person shall be elected to any office of any department, or of the Association, who is not, at the time of the election, a member of the Association.*

SEC. 5. The President shall preside at all meetings of the Association and of the Board of Directors, and shall perform the duties usually devolving upon a presiding officer. In his absence, the first Vice-President in order who is present shall preside; and in the absence of all Vice-Presidents, a *pro tempore* chairman shall be appointed on nomination, the Secretary putting the question.

SEC. 6. The Secretary shall keep a full and accurate report of the proceedings of the general meetings of the Association and all meetings of the Board of Directors, and shall conduct such correspondence as the Directors may assign, and shall have his records present at all meetings of the Association and of the Board of Directors. The Secretary of each department shall, in addition to performing the duties usually pertaining to his office, keep a list of the members of his department.

SEC. 7. The Treasurer shall receive and under the direction of the Board of Trustees hold in safe keeping all moneys paid to the Association; shall expend the same only upon the order of said Board; shall keep an exact account of his receipts and expenditures, with vouchers for the latter, which accounts, ending the first day of July each year, he shall render to the Board of Trustees, and, when approved by said Board, he shall report the same to the Board of Directors. The Treasurer shall give such bond for the faithful discharge of his duties as may be required by the Board of Trustees; and he shall continue in office until the first meeting of the Board of Directors held prior to the annual meeting of the Association next succeeding that for which he is elected.

SEC. 8. The Board of Directors shall have power to fill all vacancies in their own body; shall have in charge the general interests of the Association, excepting those herein intrusted to the Board of Trustees; shall make all necessary arrangements for its meetings, and shall do all in its power to make it a useful and honorable institution. Upon the written application of twenty members of the Association for permission to establish a new department, they may grant such permission. Such new department shall in all respects be entitled to the same rights and privileges as the others. The formation of such department shall in effect be a sufficient amendment to this Constitution for the insertion of its name in Article II., and the Secretary shall make the necessary alterations.

SEC. 9. The Board of Trustees shall consist of four members, elected by the Board

of Directors for a term of four years, and the President of the Association, who shall be a member *ex officio* during his term of office. At the election of the Trustees in 1886, one Trustee shall be elected for one year, one for two years, one for three years, and one for four years, and annually thereafter, at the first meeting of the Board of Directors held prior to the annual meeting of the Association, one Trustee shall be elected for the term of four years. All vacancies occurring in said Board of Trustees, whether by resignation or otherwise, shall be filled by the Board of Directors for the unexpired term; and the absence of a Trustee from two consecutive annual meetings of the Board shall forfeit his membership therein. The Board of Trustees thus elected and constituted shall be the executive financial officers of this Association, as a body corporate, as conferred by the certificate of incorporation under the provisions of the Act of General Incorporation, Class Third, of the Revised Statutes of the District of Columbia, dated the twenty-fourth day of February, 1886, at Washington, D. C., and recorded in Liber No. 4, "Acts of Incorporation for the District of Columbia."

SEC. 10. It shall be the duty of the Board of Trustees to provide for safe keeping and investment of all funds which the Association may receive from life-directorships, or from donations; and the income of such invested funds shall be used exclusively in paying the cost of publishing the annual volume of Proceedings of the Association, excepting when donors shall specify otherwise. It shall also be the duty of the Board to issue orders on the Treasurer for the payment of all bills approved by the Board of Directors, or by the President and Secretary of the Association acting under the authority of the Board of Directors; and, when practicable, the Trustees shall invest all surplus funds exceeding one hundred dollars, that may remain in the hands of the Treasurer after paying the expenses of the Association for the previous year.

ARTICLE V.—MEETINGS.

SECTION 1. The Annual Meeting of the Association shall be held at such time and place as shall be determined by the Board of Directors.

SEC. 2. Special meetings may be called by the President at the request of five Directors.

SEC. 3. Any department of the Association may hold a special meeting at such time and place as by its own regulations it shall appoint.

SEC. 4. The Board of Directors shall hold their regular meetings at the place, and not less than two hours before the assembling, of the Association.

SEC. 5. Special meetings may be held at such other times and places as the Board or the President shall determine.

SEC. 6. Each new Board shall organize at the session of its election. At its first meeting a Committee on Publication shall be appointed, which shall consist of the President and the Secretary of the Association for the previous year, and one member from each department.

ARTICLE VI.—BY-LAWS.

By-laws not inconsistent with this Constitution, may be adopted by a two-thirds vote of the Association.

ARTICLE VII.—AMENDMENTS.

This Constitution may be altered or amended at a regular meeting by the unanimous vote of the members present, or by a two-thirds vote of the members present, provided that the alteration or amendment has been substantially proposed in writing at a previous meeting.

BY - LAWS.

1. At each regular meeting of the Association there shall be appointed a Committee on Nominations, one on Honorary Members, and one on Resolutions.

2. The President and Secretary shall certify to the Board of Trustees all bills approved by the Board of Directors.

3. Each paying member of the Association shall be entitled to a copy of its Proceedings.

4. No paper, lecture, or address shall be read before the Association or any of its departments in the absence of its author, nor shall any such paper, lecture, or address be published in the volume of Proceedings without the consent of the Association, upon approval of the Executive Committee.

5. It shall be the duty of the President, Secretary and Treasurer of the Association, to appoint annually some competent person to examine the securities of the permanent fund held by the Board of Trustees, and his certificate showing the condition of the said fund shall be attached to the report of the Board of Trustees.

ADOPTED BY THE BOARD OF DIRECTORS.

The establishment of a special fund from surplus receipts, after the expenses of the Association have been paid, to be known as the "Emergency Fund," was recommended by the Board of Trustees, submitted to the Board of Directors, at Saratoga Springs, N. Y., July 12, 1892, and the following resolutions were adopted :

Resolved, That there be established, as soon as the current expenses of the Association will warrant, an Emergency Fund not to exceed \$4,000. Said fund shall be subject to expenditure by the Board of Trustees in accordance with votes of the Board of Directors at any regularly called meeting. The said fund may be used for the purpose of meeting deficiencies of income of the Association, and for such additional investigations and publications as may be determined by said Board of Directors; and it is further

Resolved, That the Board of Trustees be hereby authorized to transfer from the surplus funds of 1891-92, to the Emergency Fund, a sum not exceeding \$2,500; and that additional transfers may be made to said fund from the surplus receipts; and it is further

Resolved, That the Trustees be and hereby are authorized to appropriate from the Emergency Fund sums duly authorized, not to exceed \$2,500, the same to be expended by the Board of Trustees as recommended by the Board of Directors; the said expenditures to be made upon duly approved vouchers, satisfactory to the Board of Trustees.

The following by-laws pertaining to membership were also submitted to the Board of Directors and approved:

First, The membership of this Association shall consist of two classes, to be styled respectively active and associate members, of whom active members alone shall be entitled to participate in the business of the Association and to hold office.

Second, The active membership of the Association shall consist only of those who are connected with the work of education or with some educational association. Other members shall constitute the associate membership of the Association.

Third, The Directors shall communicate to the Secretary of the Association the names of persons worthy of active membership, and the Secretary shall forward to such persons the statement of the conditions and advantages of such membership, with a request that they become members, and, on receipt of the annual fees, they shall be enrolled among the active members.

Fourth, At the first session of each regular meeting of the Association the President shall appoint a Committee on Active Membership, to whom shall be referred all questions of active membership during such meeting, and persons recommended by this committee may become members by a majority vote of members present and voting at any meeting of the Association.

Fifth, During the month of January of each year the Secretary of the Association shall send to each active member a request for payment of the annual fees, and any member who shall neglect for one year the payment of the annual fee shall by reason of such neglect forfeit his membership.

CALENDAR OF MEETINGS

NATIONAL TEACHERS' ASSOCIATION.

1857.—PHILADELPHIA, PA. (Organized.)

JAMES L. ENOS, Chairman.
W. E. SHELDON, Secretary.

1858.—CINCINNATI, OHIO.

Z. RICHARDS, President.
J. W. BULKLEY, Secretary.
A. J. RICKOFF, Treasurer.

1859.—WASHINGTON, D. C.

A. J. RICKOFF, President.
J. W. BULKLEY, Secretary.
C. S. PENNELL, Treasurer.

1860.—BUFFALO, N. Y.

J. W. BULKLEY, President.
Z. RICHARDS, Secretary.
O. C. WIGHT, Treasurer.

1861, 1862.—No session.

1863.—CHICAGO, ILL.

JOHN D. PHILBRICK, President.
JAMES CRUIKSHANK, Secretary.
O. C. WIGHT, Treasurer.

1864.—OGDENSBURG, N. Y.

W. H. WELLS, President.
DAVID N. CAMP, Secretary.
Z. RICHARDS, Treasurer.

1865.—HARRISBURG, PA.

S. S. GREENE, President.
W. E. SHELDON, Secretary.
Z. RICHARDS, Treasurer.

1866.—INDIANAPOLIS, IND.

J. P. WICKERSHAM, President.
S. H. WHITE, Secretary.
S. P. BATES, Treasurer.

1867.—No session.

1868.—NASHVILLE, TENN.

J. M. GREGORY, President.
L. VAN BOKKELEN, Secretary.
JAMES CRUIKSHANK, Treasurer.

1869.—TRENTON, N. J.

L. VAN BOKKELEN, President.
W. E. CROSBY, Secretary.
A. L. BARBER, Treasurer.

1870.—CLEVELAND, OHIO.

DANIEL B. HAGAR, President.
A. P. MARBLE, Secretary.
W. E. CROSBY, Treasurer.

NAME CHANGED TO

NATIONAL EDUCATIONAL ASSOCIATION.

1871.—ST. LOUIS, MO.

J. L. PICKARD, President.
W. E. CROSBY, Secretary.
JOHN HANCOCK, Treasurer.

1872.—BOSTON, MASS.

E. E. WHITE, President.
S. H. WHITE, Secretary.
JOHN HANCOCK, Treasurer.

1873.—ELMIRA, N. Y.

B. G. NORTHROP, President.
S. H. WHITE, Secretary.
JOHN HANCOCK, Treasurer.

1874.—DETROIT, MICH.

S. H. WHITE, President.
A. P. MARBLE, Secretary.
JOHN HANCOCK, Treasurer.

1875.—MINNEAPOLIS, MINN.

W. T. HARRIS, President.
W. R. ABBOTT, Secretary.
A. P. MARBLE, Treasurer.

1876.—BALTIMORE, MD.

W. F. PHELPS, President.
W. D. HENKLE, Secretary.
A. P. MARBLE, Treasurer.

1877.—LOUISVILLE, KY.

M. A. NEWELL, President.
W. D. HENKLE, Secretary.
J. ORMOND WILSON, Treasurer.

1878.—No session.

1879.—PHILADELPHIA, PA.

JOHN HANCOCK, President.
W. D. HENKLE, Secretary.
J. ORMOND WILSON, Treasurer.

1880.—CHAUTAUQUA, N. Y.

J. ORMOND WILSON, President.
W. D. HENKLE, Secretary.
E. T. TAPPAN, Treasurer.

1881.—ATLANTA, GA.

JAMES H. SMART, President.
W. D. HENKLE, Secretary.
E. T. TAPPAN, Treasurer.

1882.—SARATOGA SPRINGS, N. Y.

G. J. ORR, President.
W. E. SHELDON, Secretary.
H. S. TARBELL, Treasurer.

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W. E. SHELDON, Secretary.
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1884.—MADISON, WIS.

THOMAS W. BICKNELL, President.
H. S. TARBELL, Secretary.
N. A. CALKINS, Treasurer.

1885.—SARATOGA SPRINGS, N. Y.

F. LOUIS SOLDAN, President.
W. E. SHELDON, Secretary.
N. A. CALKINS, Treasurer.

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1892.—SARATOGA SPRINGS, N. Y.

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1893.—CHICAGO, ILL.

(International Congress of Education.)

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NATIONAL EDUCATIONAL ASSOCIATION

OF THE UNITED STATES.

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N. A. CALKINS.....	New York City.....	" " " 1894.
H. S. TARBELL.....	Providence, Rhode Island.....	" " " 1893.
A. G. LANE.....	Chicago, Illinois.....	<i>Ex-officio.</i>

"The Board of Trustees shall be the executive financial officers of this Association as a body corporate."—*Art. IV., Secs. 9 and 10 of the Constitution.*

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Directors ex-officio. See Art. IV., Sec. 2, of the Constitution.

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CALKINS, N. A., New York City, New York.	RICKOFF, REBECCA D., New York City.
DICKINSON, J. W., Newtonville, Massachusetts.	ROGERS, C. P., Marshalltown, Iowa.
FERNALD, M. C., Orono, Maine.	SEARING, EDWARD, Mankato, Minnesota.
FUTRALL, T. A., Marianna, Arkansas.	SCHAEFFER, N. C., Harrisburg, Pennsylvania.
GLOVER, N. L., Akron, Ohio.	SHEPARD, IRWIN, Winona, Minnesota.
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HEWETT, E. C., Normal, Illinois.	TRANT, AMELIA E., Buffalo, New York.
KIEHLE, D. L., Minneapolis, Minnesota.	WHITE, E. E., Cincinnati, Ohio.
LANE, A. G., Chicago, Illinois.	WOLFE, L. E., Jefferson City, Missouri.
LOW, SETH, New York City.	

Life Directors.

BROWN, LEROY D., Box 138, Santa Monica, Los Angeles Co., Cal.	HALL, CALEB G., New Berlin, N. Y.
DOUGHERTY, NEWTON C., 906 E. Bluff St., Peoria, Ill.	JEWETT, A. V., Abilene, Kan.
DAY, L. W., 422 Superior St., Cleveland, O.	MARSHALL, T. MARCELLUS, Carlisle, Pa.
FAIRCHILD, GEORGE T., State Agricultural College, Manhattan, Kan.	PARKER, CHAS. I., 9136 Exchange Ave., South Chicago, Ill.
GREENWOOD, J. M., 1312 Oak St., Kansas City, Mo.	PIKE, J., Jerseyville, Ill.
GOVE, AARON, 2045 Grant Ave., Denver, Col.	RICKOFF, ANDREW J., 444 Central Park West, N. Y.
HUNT, MARY H., 55 Central Ave., Hyde Park, Mass.	STRATTON, C. C., Portland University, University Park, Ore.
	TAYLOR, A. R., 1127 Congress St., Emporia, Kan.

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Rhode Island.....	T. B. STOCKWELL.....	Providence.
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North Carolina.....	ROBERT BINGHAM.....	Asheville.
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Mississippi.....	DABNEY LIPSCOMB.....	Stockville.
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South Dakota.....
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Higher.

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WM. PRESTON JOHNSTON.....	" "	New Orleans, Louisiana.
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* Deceased.

MEMBERSHIP

OF THE

NATIONAL EDUCATIONAL ASSOCIATION.

THE dates in the margin indicate the year when the several memberships began. The addresses given in this list are the latest known residence of each Life Director and Life Member.

PERPETUAL DIRECTORSHIP.

- | | |
|---|--|
| 1879. Philadelphia Teachers' Institute,
Sargent Street, below 9th, Philadelphia, Pa. | 1889. Board of Education of Nashville,
Tenn. |
| | 1890. Illinois State Teachers' Association,
Springfield, Ill. |

LIFE DIRECTORS.

CALIFORNIA.

1888. Brown, LeRoy D., Box 138, Santa Monica, Los Angeles Co.

COLORADO.

1888. Gove, Aaron, 2045 Grant Ave., Denver.

ILLINOIS.

1887. Dougherty, Newton C., 906 E. Bluff St., Peoria.
 1887. Parker, Chas. I., 9136 Exchange Ave., South Chicago.
 1891. Pike, J., Jerseyville.

KANSAS.

1886. Fairchild, Geo. T., State Agricultural College, Manhattan.
 1886. Jewett, A. V., Abilene, Dickinson Co.
 1886. Taylor, A. R., 1127 Congress St., Emporia.

MASSACHUSETTS.

1887. Hunt, Mary H., 55 Central Ave., Hyde Park, Norfolk Co.

MISSOURI.

1886. Greenwood, J. M., 1312 Oak St., Kansas City.

NEW YORK.

1885. Hall, Caleb G., New Berlin.
 1881. Rickoff, Andrew J., 444 Central Park West, New York.

OHIO.

1888. Day, L. W., 422 Superior St., Cleveland.

OREGON.

1888. Stratton, C. C., Portland University, University Park.

PENNSYLVANIA.

1877. Marshall, T. Marcellus, Carlisle.

LIFE MEMBERS.

CALIFORNIA.

1889. Hobe, Augusta W., 1633 Hyde St., San Francisco.
 1879. Hoose, James H., 255 S. Euclid Ave., Pasadena.
 1877. De Jarnette, Anna Kalfus, care of J. L. Kalfus, San José.
 1882. Morris, Harriette N., State Normal School, Chico.

COLORADO.

1884. Hayward, Emily A., Denver.

CONNECTICUT.

1884. Barnard, Henry, 28 Main St., Hartford.
 1884. Northrop, Birdsey G., Clinton.

DISTRICT OF COLUMBIA.

1884. Bell, Alex. Graham, Washington.
 1876. Harris, Wm. T., Bureau of Education, Washington.
 1880. Hitz, John, 917 R St., N. W., Washington.
 1889. Keane, Rt. Rev. John, Catholic University, Washington.
 1864. Richards, Zalmon, 1301 Corcoran St., Washington.
 1880. Wilson, J. Ormond, 1439 Massachusetts Ave., Washington.

GEORGIA.

1890. Baker, W. H., 150 Drayton St., Savannah.
 1881. Mallon, Mrs. Frances C., The Leland, Houston St., Atlanta.
 1870. Manley, R. M., Dalton, Whitfield Co.

ILLINOIS.

1870. Allen, Ira W., 612 Maple St., Englewood, Chicago.
 1880. Brown, Geo. P., Bloomington, McLean Co.
 1884. Cheney, Augustus J., Oak Park, Chicago.
 1864. Eberhardt, John F., 161 La Salle St., Chicago.
 1876. Forbes, Alexander, 24 Aldine Square, Chicago.
 1884. Hewett, Edwin C., 200 Ash St., Normal, McLean Co.
 1891. Hull, John, Normal University, Carbondale.

1884. Raab, Henry, State House, Springfield.

INDIANA.

1876. Bell, W. A., 66½ North Penn St., Indianapolis.
 1880. Irwin, John S., 241 West Main St., Fort Wayne.
 1866. McRae, N. S., Marion.
 1877. Smart, James H., Perdue University, La Fayette.
 1876. Stevens, M. C., Littleton St., W. Side, La Fayette.

IOWA.

1880. Gilchrist, J. C., Laurens, Pocahontas Co.
 1886. Pickard, Josiah L., 419 N. Clinton St., Iowa City.
 1884. Taylor, Henry J., 1635 Douglas St., Sioux City.
 1884. Willis, Wm. A., 612 Market St., Iowa City.

KANSAS.

1886. Campbell, A. G., Lock Box 37, Council Grove.
 1886. Clark, Frank H., Minneapolis, Ottawa Co.
 1886. Coover, N. Wilson, Ellsworth Co.
 1886. Fairchild, Edward S., Ellsworth, Ellsworth Co.
 1886. Jay, Walter M., St. John's School, Salina.
 1886. Klock, J. E., Leavenworth.
 1886. Larimer, Henry G., 216 Clay St., Topeka.
 1886. Limerick, A. H., 902 E. 9th St., Winfield.
 1886. MacDonald, John, Topeka.
 1886. McVicar, Peter, Topeka.
 1886. Meade, Richard C., Atchison.
 1886. Roop, C. Y., 336 S. 7th St., Salina.
 1886. Rose, Geo. E., Rosedale, Wyandotte Co.
 1886. Sawhill, Thos. A., 309 N. 7th St., Concordia, Cloud Co.
 1886. Schuyler, Aaron, 1316 S. Santa Fé St., Salina.
 1886. Stanley, Edmund, 900 Kentucky St., Lawrence.
 1886. Tillotson, D. C., 621 Fillmore St., Topeka.
 1886. Williams, Philo J., Massachusetts St., Lawrence.
 1886. President Board of Education, Abilene, Dickinson Co.

KANSAS—*Continued.*

1886. Dodge City Schools, care E. D. Webb, Dodge City, Ford Co.
 1886. Board of Education, City of Ottawa, Franklin Co.
 1886. Sedgwick City Schools, Sedgwick, Harvey Co.
 1886. Cowley County Teachers' Association, Winfield.
 1886. Riley County Teachers' Association, Manhattan.

KENTUCKY.

1877. Bartholomew, W. H., 426 East Gray St., Louisville.
 1877. Monsarrat, Mrs. L. L., 1250 First St., Louisville.

MARYLAND.

1876. Richmond, Sarah E. S., 1402 Penna. Ave., Baltimore.

MASSACHUSETTS.

1884. Bascom, John, Park St., Williamstown.
 1882. Bicknell, Thos. W., 175 Harvard St., Dorchester.
 1864. Hagar, Daniel B., 12 Summer St., Salem.
 1870. Jones, Daniel W., 4 Hawthorn St., Roxbury, Boston.
 1880. Marble, Albert P., 492 Main St., Worcester.
 1886. Mowry, Wm. A., 97 Federal St., Salem.
 1865. Sheldon, Wm. E., 3 Somerset St., Boston.

MICHIGAN.

1866. Mayhew, Ira, 119 Griswold St., Detroit.

MINNESOTA.

1864. Pennell, Calvin S., 2245 St. Anthony Park.
 1870. Phelps, Wm. F., 105 Germania Life Building, St. Paul.
 1890. Ind. School Dist. No. 3, care Wm. J. Pringle, Northfield, Rice Co.

MISSISSIPPI.

1889. Wright, Edmund W., P. O. Box 353, Vicksburg.

MISSOURI.

1886. Evans, Chas. H., 915 Locust St., St. Louis.
 1877. Soldan, F. Louis, 1616 Hickory St., St. Louis.

NEBRASKA.

1876. Beals, Samuel De Witt, 2118 Davenport St., Omaha.
 1880. Bibb-Sudborough, Mrs. Grace, 549 S. 26th Ave., Omaha.
 1884. Curry, Robert, cor. D and 4th Sts., Palmyra.
 1884. James, Henry M., 2219 Capitol Ave., Omaha.
 1886. Miller, J. H., Room 5, Ledwith Block, Lincoln.

NEW HAMPSHIRE.

1876. Rounds, Charles C., Plymouth.

NEW JERSEY.

1876. Thompson, Langdon S., 30 Park St., Jersey City.

NEW YORK.

1871. Anderson, John J., 343 Adelphi St., Brooklyn.
 1879. Calkins, N. A., 124 E. 80th St., New York.
 1880. Coe, Emily M., 50 W. 22d St., New York.
 1864. Cruikshank, James, 206 So. Oxford St., Brooklyn.
 1883. Day, Mrs. Albert, ———, New York.
 1882. Hodgdon, Josephine E., 80 Wiloughby St., Brooklyn.
 1885. Hunter, Thomas, Normal College, New York.
 1879. Kraus, John, New York.
 1880. Rickoff, Mrs. Rebecca D., 444 Central Park West, New York.
 1882. Stern, S. M., 29 E. 44th St., New York.
 1884. Van Aken, Mrs. Georgiana, 63 Park St., New York.

NORTH CAROLINA.

1884. Bingham, Robert, Asheville.

OHIO.

1884. Bennett, C. W., 218 W. Ash St., Piqua.
 1880. Bennett, Hampton, Franklin, Warren Co.
 1880. Burns, J. J., Canton.
 1870. Cole, William H., Marysville, Union Co.
 1883. Coy, E. W., Hughes High School, Cincinnati.
 1866. Curran, Ulysses T., 622 Columbus Ave., Sandusky.
 1880. Davidson, Chas. C., 59 W. Ely St., Alliance.

OHIO—Continued.

1880. Dutton, Bettie A., 94 State St., Cleveland.
 1865. Hartshorn, O. N., Alliance.
 1870. Holden, L. E., Cleveland.
 1879. McMillan, Reuben, Canfield, Mahoning Co.
 1880. McMillan, Mrs. S., Canfield, Mahoning Co.
 1880. Miller, Lewis, Oak Place, Akron.
 1880. Peaslee, John B., McGregor Park, Cincinnati.
 1882. Robert, James A., 230 N. Summit Ave., Dayton.
 1870. White, Emerson E., 287 E. Broad St., Columbus.
 1880. Widner, Esther, 201 S. Perry St., Dayton.
 1870. Williams, Mrs. Delia Lathrop, 62 S. Liberty St., Delaware.

PENNSYLVANIA.

1870. Arey, Oliver, 303 Springfield Ave., Philadelphia.
 1879. Avery, Rachel Foster, Somerton, Philadelphia.
 1876. Brooks, Edward, 240 S. 39th St., Philadelphia.
 1879. Gratz, Simon, 1309 Locust St., Philadelphia.
 1865. Ingram, Samuel D., 113 Market St., Harrisburg.
 1891. Lyte, E. Oram, State Normal School, Millersville.
 1891. Schofield, Martha, 1717 Vine St., Philadelphia.
 1879. Shippen, Edward, 532 Walnut St., Philadelphia.
 1880. Singer, Edgar A., 4662 Penn St., Philadelphia.
 1884. Stewart, Sarah A., 1520 Chestnut St., Philadelphia.

TENNESSEE.

1887. Conway, Clara, Memphis.

WISCONSIN.

1884. Albel, Geo. S., State Normal School, Oshkosh.
 1884. Aylward, John Arthur, Pioneer Block, Madison.
 1884. Beek, Geo., 125 Elm St., Platteville.
 1884. Carpenter, J. H., 315 Wisconsin Ave., Madison.
 1884. Chandler, W. H., Sun Prairie, Dane Co.
 1884. Charlton, Edwin A., Broadhead, Green Co.

1884. Clark, L. H., State Normal School, River Falls.
 1884. Eden, Philip, Richland Center.
 1884. Emery, J. Q., River Falls, Pierce Co.
 1884. Flavin, John T., Watertown, Jefferson Co.
 1884. Harvey, Lorenzo Dow, 225 23d St., Milwaukee.
 1884. Hutton, A. J., Platteville, Grant Co.
 1884. Nye, Chas. H., Box 201, Platteville, Grant Co.
 1884. Parker, Warren D., 212 Gilman St., Madison.
 1884. Parkinson, John B., 803 State St., Madison.
 1884. Shaw, Samuel, Crandon, Forest Co.
 1884. Stack, Joshua, Martin Flats, Wisconsin St., Milwaukee.
 1884. Stewart, I. N., Appleton, Outagamie Co.
 1884. Stearns, J. W., 512 Wisconsin Ave., Madison.
 1884. Spencer, Robert C., Business College, Milwaukee.
 1884. State Normal School, Platteville, Grant Co.
 1884. Thayer, J. B., Madison.
 1884. Twining, N. C., Monroe.
 1884. Whitford, William C., Milton, Rock Co.
 1884. Board Regents State N. Schools, Wis. State Historical Society, Madison.
 1884. County Supts.' Association, Wis. State Historical Society, Madison.
 1884. Board of Education, Beloit.
 1884. Board of Education, Jamesville.
 1884. Board of Education, A. N. Hardy, Clerk, La Crosse.
 1884. Board of Education, Watertown.
 1884. Supt. Public Schools (Board of Education), Milwaukee.
 1884. Board of Education (R. H. Halsey, Supt. Schools), Oshkosh.
 1884. Alumni Assoc., City Normal School, Milwaukee.
 1884. County Teachers' Association, Milwaukee.
 1884. Intermediate and Upper Section, Teachers' Corps, Milwaukee.
 1884. Principals' Association, Milwaukee.
 1884. Primary Section, Teachers' Corps, Milwaukee.
 1884. Athenæum Lit. Soc., State Normal School, Platteville.
 1884. Philadelphian Society, State Normal School, Platteville.
 1884. Public School Teachers, Janesville.
 1884. Wisconsin Principals' Association.
 1884. Wisconsin Teachers' Association.

ADDRESSES UNKNOWN.

Letters sent to the last known address of the following were returned by postmasters, marked "Not called for," "Left for parts unknown," "Unknown," "Name not in Directory," etc.:

Brown, Mrs. A. J.
Crosby, W. E.
De Wolf, David F.
English, R. F.
Franklin, M. B.
Harvey, G. I.

Heywood, C. W.
O'Connor, Joseph.
Partridge, Lelia E.
Paxon, Joseph.
Setzefaud, A.
Schmitz, J. Adolph.

Spring, E. A.
Wilcox, M. C.
Woodward, G. A.
Videlia, Dornia G.
Young, Chas. S.

NAMES OF LIFE MEMBERS DECEASED.

Allyn, Robert, Illinois.
Corey, Lucien B., New York.
Danforth, Edward, New York.
Graham, Robert, Wisconsin.
Hancock, John, Ohio.
Harvey, Thomas W., Ohio.
Hobbs, B. C., Indiana.
Howland, H. C., Wisconsin.
Newell, M. A., Maryland.

Rusk, Hon. Jeremiah M., Wisconsin.
Stanford, Leland (Life Director), California.
Stevenson, R. W., Ohio.
Stone, E. M., Rhode Island.
Stone, Mrs. M. A., Connecticut.
Tourgee, Eben, Massachusetts.
Wickersham, James P., Pennsylvania.

ANNUAL MEMBERSHIP FOR THE YEAR ENDING JULY 1, 1894.

AFRICA.

Fraser, D. D., Cape Town.

—*Africa, 1.*

ALABAMA.

Cutler, Susan R., Talladega.
Doll, C. D., Montgomery.
Phillips, J. H., Birmingham.
Talbot, Henry, Montgomery.

Towle, Amos, Mobile.
Tutwiler, Julia L., Livingston.
Van Wie, C. B., Florence.

—*Alabama, 7.*

ARGENTINE REPUBLIC.

Graham, Mary O., Buenos Ayres.

Howard, Jennie E., San Nicolas.

—*Argentine Republic, 2.*

ARKANSAS.

Anderson, Chas. A., Haynes.
Blake, A. L., Waldo.
Brown, G. P. A., Marianna.
Cook, Geo. B., Hot Springs.
Cook, Minnie R., Helena.
Crawford, W. A., Boonesborough.
Droke, G. W., Fayetteville.
Futrell, T. A., Marianna.
Ish, Jefferson G., Little Rock.
Kerr, C. V., Fayetteville.
Kuykendall, J. W., Paragould.
Lee, W. H., Washington.
Leiper, W. D., Malvern.

McBride, Ruth, Pine Bluff.
McNeill, J., Fayetteville.
Millar, Alex. C., Conway.
Murry, T., Morrillton.
Oden, John W., Little Rock.
Parham, R. H., Little Rock.
Reynolds, T. H., Rover.
Reynolds, W. D., Ramsey.
Rogers, D. T., Jonesboro.
Thompson, R. S., Paragould.
Toon, W. B., Morrillton.
Young, W. T., Wynne.

—*Arkansas, 25.*

AUSTRIA.

Bondy, Mrs. Ottilia, Vienna.
Burgerstein, Leo, Vienna.

Gugler, Josef, Vienna.

—*Austria, 3.*

CALIFORNIA.

Adams, Mary P., San José.
Barnes, Earl, Palo Alto.
Barth, Robert, San Francisco.
Bayne, Frank F., Berkeley.
Boyd, Nicholas E., Berkeley.
Brown, Elmer E., Berkeley.
Brown, Mrs. Elmer E., Berkeley.
Dickson, Sadie, Escondido.
Eckert, D. A., Azusa.
Ennis, C. L., Los Angeles.
Evans, Llewellyn, Pasadena.
Farnham, Geo. S., Riverside.
Foshay, Jas. A., Los Angeles.
Foy, Mary E., Los Angeles.
Garin, Paul A., Oakland.
Greggs, Edw. H., Palo Alto.
Kellogg, Martin, Berkeley.
Le Beuf, Helen J., Orange.
Martin, Mrs. F. M., Santa Rosa.

Matthews, Winfield S., University.
Mayhew, Mrs. Nora D., Los Angeles.
Mills, Mrs. C. T., Mills College, Alameda.
Mills, J. S., Los Angeles.
Molyneaux, Frank A., Pomona.
Monroe, Will S., Palo Alto.
Payne, Frank H., Berkeley.
Phelps, N. S., San Francisco.
Pierce, Ed. T., Los Angeles.
Porter, Mrs. Anna S., San Diego.
Reid, W. T., Belmont.
Rice, Mrs. Juliet Powell, Los Angeles.
Rich, Ednah A., Santa Barbara.
Sanford, Fernanda, Palo Alto.
Schallenberger, Margaret E., Palo Alto.
Wilson, Esther M., Chico.
Wood, Thomas D., Palo Alto.
Yowell, T. A., Los Angeles.

—*California, 37.*

COLORADO.

- Allen, Leon M., Colorado Springs.
 Allen, Mrs. Florence, Denver.
 Baker, Jas. H., Boulder.
 Baker, T. O., Durango.
 Ballard, Charlotte, Watkins.
 Barron, Alida J., Denver.
 Beggs, Robert H., Denver.
 Boyd, David, Greeley.
 Bradley, C. A., Denver.
 Casey, W. V., Boulder.
 Cobb, Ruby E., Denver.
 Condit, P. M., Colorado Springs.
 Copeland, A. B., Greeley.
 Courtney, A. C., Denver.
 Coy, N. B., Denver.
 Davis, Fannie C., Denver.
 Dewey, Helen A., Colorado Springs.
 Eddingsfield, W. T., Aspen.
 Elder, Andrew W., Denver.
 Fairfield, Alice T., Leadville.
 Farris, Miss F. O., Denver.
 Fletcher, Mary L., Georgetown.
 Flower, Miss E., Denver.
 Fortner, Miss S. E., Denver.
 Gass, B. R., Denver.
 Gilkison, H. A., Denver.
 Goodrich, Miss H. E., Denver.
 Greenlee, Lewis C., Denver.
 Griggs, Herbert, Denver.
 Grossmeyer, Clara, Denver.
 Guss, Roland W., Greeley.
 Hale, Horace M., Denver.
 Harris, Harriet A., Leadville.
 Hayward, Emily A., Denver.
 Henderson, Luella, Denver.
 Holdredge, Adelaide, Leadville.
 Hooper, Lydia, Idaho Springs.
 Houghan, Frona R., Denver.
 Jackson, J. P., Colorado Springs.
 Jones, Nora J. (Ft. Lupton), Ramah.
 Kerr, Annie, Denver.
 Kingsley, C. M., Boulder.
 Knapp, W. E., Denver.
 Kram, Mrs. C. V., Denver.
 Lawson, Mrs. C. B., Denver.
 Lees, Mary, Denver.
 Liddell, Miss M. E., Denver.
 Long, Geo. B., Denver.
 MacDonald, Myra M., Denver.
 Mack, Miss M. F., Denver.
 McArthur, Jessie, Georgetown.
 McChesney, Tude, Harman.
 McCleeny, J. S., Pueblo.
 McClure, Z. B., Denver.
 McCoy, Maggie, Leadville.
 McDowell, Wm. F., University Park.
 McNair, Agnes, Denver.
 Miller, Miss A. W., Denver West.
 Mitchell, Alice, Denver.
 Moore, Dora M., Denver.
 Morgenstern, Carolina O., Denver.
 Murphy, Mrs. E. H., Denver.
 Murray, J. F., Denver.
 Osenback, C. M., Denver.
 Parker, C. V., Ft. Collins.
 Pike, Lillian L., Farnham.
 Price, Minnie, Denver.
 Remington, W. W., Boulder.
 Robin, Susanna, Denver.
 Royce, Eudora, Highlands.
 Sabin, Mary S., Denver.
 Salisbury, Celia A., Denver.
 Schleicher, Alice, Denver.
 Schmitt, Jacob, Denver.
 Search, W. P., Pueblo.
 Seavey, May, Denver.
 Shepard, A. D., Denver.
 Smedley, Wm., Denver.
 Smiley, W. R., Denver.
 Smith, Minna E., Denver.
 Snyder, Z. H., Greeley.
 Stephens, Eugene C., Trinidad.
 Stephenson, Mrs. D. E., Alma.
 Telford, Eva G., Rico.
 Thomas, W. C., Greeley.
 Thompson, Jennie M., Denver.
 Thompson, Lucy, Denver.
 Underhill, Mildred, Denver.
 Wallace, Maggie M., Denver.
 Warnecke, Marie, Denver.
 Westhaver, Evelina, Edgewater.
 Whiteman, W. J., Denver.
 Wilson, Josephine, Denver.
 Woody, C. A., Salida.
 Young, J. S., Denver.

—Colorado, 95.

CONNECTICUT.

- Bartlett, Ella E., Southford.
 Brocklesby, John H., Hartford.
 Buchner, Edward F., New Haven.
 Carlisle, Ella E., Norwich.
 Curtis, Virgil G., New Haven.
 Deane, Chas. W., Bridgeport.
 Pinney, M. A., New Haven.
 Raymond, B. P., Middletown.
 Scott, Walter, Suffield.
 Skinner, Stella, New Haven.
 Smith, Geo. W., Hartford.
 Smith, Minna E., Hartford.
 Willard, S. P., Colchester.

—Connecticut, 13.

CUBA.

- De la Torre, Carlos, Havana.
 Horta, Constantino, Havana.

—Cuba, 2.

DENMARK.

- Fredrickson, Kristina, Kolding.

—Denmark, 1.

ENGLAND.

- Bramwell, Amy, Cambridge.
 Brook, M. S., Westminster.
 Cowham, Jos. H., Westminster.
 Hanson, James, Bradford.
 Hughes, Elizabeth P., Barry, South Wales.
 Hughes, H. Millicent, Barry, South Wales.
 Legard, A. G., High Harrogate.
 Louch, Mary, Cheltenham.
 Moore, Annie Osborne, London, S. W.
 Osborne, Aimee K., London, S. W.
 Osterberg, Bergman, London.
 Pritchard, Mrs. Emily C., Kingsland.
 Rooper, T. G., High Harrogate.
 Thomas, Mary V., London, W.
 Vinta, Edith, Bayswater.
 Wilson, Edith C., Manchester.
 Zimmin, Alice, Tunbridge Wells.
 —*England, 17.*

FINLAND.

- Blomqvist, Elizabeth, Svenska Fruntim, Helsingfors. —*Finland, 1.*

FLORIDA.

- Gaines, Nannie B., Leesburg.
 Payne, D. A., Jacksonville.
 Sheats, W. N., State Supt. Public Instruction, Tallahassee.
 Veenfliet, Mrs. M. L., De Land.
 Weston, Mrs. Olive E., Jacksonville.
 —*Florida, 5.*

FRANCE.

- Beamme, D., Nancy.
 Chevrillon, André, Lille.
 —*France, 2.*

GEORGIA.

- Alford, William B., Atlanta.
 Allen, Willette, Atlanta.
 Giles, Harriet E., Atlanta.
 Johnson, Wm. D., Athens.
 Smith, Willard N., Savannah.
 Snyder, Jessie M., Columbus.
 Wright, Elizabeth M., Tate.
 —*Georgia, 7.*

GERMANY.

- Abel, Dr., 24 Park Str., Weisbaden.
 Forster, Auguste, Kassel.
 Guentsche, Richard, Buelowstrasse, Berlin.
 Imelmann, J., Berlin.
 Lauer, Karl, Freiburg.
 Rieunier, Alexis, Herault.
 Schlee, Ernest, Altona.
 —*Germany, 7.*

HAWAIIAN ISLANDS.

- Alexander, W. D., Honolulu.
 Wells, W. I., Hanamaulu Kauai.
 —*Hawaiian Islands, 2.*

HUNGARY.

- Kricsy, Bela, Kecskemit.
 Mandello, Tulus, Sasutca.
 —*Hungary, 2.*

ILLINOIS.

- Adams, Carrie G., Chicago.
 Adams, Nettie R., Chicago.
 Addy, Mary S., Chicago.
 Aldrich, Jessie, Chicago.
 Ailing, Harriet T., Moreland.
 Ailing, Jas. C., Chicago.
 * Allyn, Robert, Carbondale.
 Ames, A. F., Riverside.
 Andrews, Minnie J., Chicago.
 Armitage, B. F., Mattoon.
 Armstrong, James E., Englewood.
 Arnold, David S., Englewood.
 Backman, Kate, Chicago.
 Baertschy, Elizabeth, Ravenswood.
 Bangs, J. E., Fairbury.
 Banker, Emma J., Chicago.
 Bannon, Geo. C., Chicago.
 Barbour, O. F., Rockford.
 Bardwell, Conrad M., Canton.
 Barlow, Cornelia, Highland Park.
 Beane, E. M., Chandlerville.
 Beardsley, Alice, Chicago.
 Beaumont, Harriet A., Arlington Heights.
 Bedwell, Almeda, Chicago.
 Bennett, Jno. I., Chicago.
 Bevans, Homer, Englewood.
 Bilharz, Jane A., Waukegan.
 Blanchard, Chas. A., Wheaton.
 Block, Louis J., Chicago.
 Blount, Geo., Morris.
 Bogan, Wm. J., Chicago.
 Boltwood, H. L., Evanston.

ILLINOIS—CONTINUED.

- Bonfield, Mary, Chicago.
 Brayton, Laura T., Chicago.
 Bright, O. T., Englewood.
 Broderick, Mary, Chicago.
 Brooks, Sarah A., Chicago.
 Brown, Geo. P., Bloomington.
 Brown, Geo. W., Jacksonville.
 Brown, Hugh, Chicago.
 Burdon, Lilian, Chicago.
 Burke, Isabel, Chicago.
 Butts, Augusta E., Chicago.
 Byrne, Sarah, Englewood.
 Caldwell, Anna M., Chicago.
 Caldwell, Mavolta, Chicago.
 Canney, Alice B., Chicago.
 Cannon, Theresa A., Chicago.
 Carman, Geo. N., Morgan Park.
 Carpenter, Nellie M., Chicago.
 Case, Sophia M., Chicago.
 Castle, L. M., Springfield.
 Chadband, Fanny G., Rogers Park.
 Chadwick, Mary, Chicago.
 Chamberlain, Wm., Chicago.
 Chamberlaine, Patrick, Chicago.
 Charles, Thomas, Chicago.
 Church, Emma M., Chicago.
 Clancy, A. W., Chicago.
 Clark, J. Scott, Evanston.
 Clayberg, G. M., Oak Park.
 Coddington, Arch O., Chicago.
 Colton, Buel P., Normal.
 Colwell, Lewis W., Avondale.
 Compton, Helen D., Chicago.
 Conner, Bessie M., Chicago.
 Cook, Emily, Chicago.
 Cook, Ida M., Chicago.
 Cook, Chas. A., Irving Park.
 Cook, J. W., Normal.
 Coone, Henrietta M., Chicago.
 Covey, C. C., Farmer City.
 Crouse, Mrs. J. N., Chicago.
 Crow, Martha F., Chicago.
 Cullen, Mary Agnes, Chicago.
 Cutler, Robert E., Chicago.
 Cutler, Susan R., Chicago.
 Dalton, Catherine, Dalton.
 Dana, Susie L., Chicago.
 Danforth, Helen, Chicago.
 Darling, D. H., Joliet.
 Davidson, Cecilia D., Chicago.
 Davidson, Martha E., Chicago.
 Davis, Anna I., Joliet.
 Davis, George W., Buena Park.
 Davis, Mary A., Chicago.
 De Clark, Geo. W., Fernwood.
 Delafontaine, Mark, Chicago.
 Delano, E. C., Chicago.
 Deer, H. F., Elgin.
 Dewey, Electa E., Chicago.
 Dewey, Helen A., Aurora.
 Dewey, Jas. R., Chicago.
 Dillman, Louis M., Chicago.
 Dimock, Clara, Chicago.
 Dodge, Wm. C., Chicago.
 Donnelly, Margaret, Woodstock.
 Dougall, Jean, Chicago.
 Dougherty, N. C., Peoria.
 Duncan, Thomas C., Chicago.
 Du Plessie, C. O., Chicago.
 Durham, S., Chicago.
 Dwight, Hattie L., Rockford.
 Eaton, Ira T., Chicago.
 Eaton, Sarah J., Chicago.
 Eeelston, Mrs. S. C., Chicago.
 Eddy, Clara E., Chicago.
 Ellis, John C., Chicago.
 Emery, Constance, Quincy.
 English, Gertrude E., Chicago.
 Enright, Mary, Chicago.
 Erickson, Jennie, Jefferson Park.
 Etten, Frances, Chicago.
 Falek, Constance, Chicago.
 Falley, A. L., Ravenswood.
 Farnsworth, J. B., Mayfair.
 Farson, Mary E., Chicago.
 Felt, Ida, Chicago.
 Ferson, E. B., Chicago.
 Finch, C. W., Chicago.
 Finney, Mabel, Highland Park.
 Fischeer, Eveline, Chicago.
 Fisk, Franklin P., Chicago.
 Fisk, H. F., Evanston.
 Fisk, Libbie E., Chicago.
 Fitzer, Levi R., Belvidere.
 Foote, Mary C., Rockford.
 Forbes, Alexander, Chicago.
 Forbes, Annie, Chicago.
 Ford, Chas. H., Chicago.
 Ford, Emma A., Aurora.
 Foresman, H. A., Chicago.
 Forkin, Mary A., South Chicago.
 Fox, Mary A., Chicago.
 Francis, Jane, Chicago.
 Frazier, Mrs. Lizzie H., Morgan Park.
 Freeman, J. H., Aurora.
 Freer, Francis A., Galesburg.
 French, Emily L., Chicago.
 Fuchs, Elsa, Chicago.
 Gall, Katherine A., Chicago.
 Gasan, Emma, Chicago.
 Gee, Etta Q., Chicago.
 Gettenny, Mrs. Mary E., Galesburg.
 Giffin, Wm. M. (Auburn Park), Chicago.
 Gilbert, Mary E., Chicago.
 Gilbert, Newell D., Austin.
 Gill, Marcella, Chicago.
 Gimbel, Amanda, Chicago.
 Glenn, Annie J., Chicago.
 Goodhue, L. P., Chicago.
 Greenleaf, Mrs. Emma M., Chicago.
 Grimshaw, Elizabeth C., Cheltenham.
 Groves, Chas. W., Harwood.
 Guenther, Kate O., Blue Island.
 Haas, Mrs. E. S., Chicago.
 Hack, Patty A., Ravenswood.
 Hall, A. S., Morgan Park.

ILLINOIS—CONTINUED.

- Hall, Frank H., Waukegan.
 Hall, Win. Gardner, Chicago.
 Halle, Rebecca, Chicago.
 Hammill, W. J., Rockford.
 Hannan, James, Chicago.
 Hanson, Martha E., Caledonia.
 Harding, Frank F., Chicago.
 Hardinge, Agnes M., Chicago.
 Harford, Emma, Dover.
 Harley, Walter S., Chicago.
 Harnett, Nellie E., Chicago.
 Harrison, Elizabeth, Chicago.
 Harrison, S. A., Chicago.
 Harrower, Walter J., Barrington.
 Hartney, Elizabeth L., Chicago.
 Hatch, Celia P., Hinsdale.
 Hatch, Henry D., Chicago.
 Hatch, W. H., Oak Park.
 Hatfield, Ida I., Chicago.
 Hays, Dudley G., Englewood.
 Heffron, Ida, Washington Heights.
 Heinroth, Luella, Chicago.
 Hendricks, Helen Q., Chicago.
 Henninger, J. W., Charleston.
 Henroten, Ellen M., Chicago.
 Heuermann, Minna S., Chicago.
 Heyward, Frank S., Chicago.
 Hicks, David F., Chicago.
 Higby, Cora, Chicago.
 Hill, Louis D., Evanston.
 Hoerner, Effie, Chicago.
 Holbrook, Florence, Chicago.
 Horine, Lizzie, Chicago.
 Hullinger, Jno. D., Chicago.
 Hurst, Mary H., Chicago.
 Jackman, Wilber S., Englewood.
 Jampolis, Amelia, Chicago.
 Jenkins, William, Mendota.
 Johann, Carl, Eureka.
 Johnson, Ellen M., Chicago.
 Johnson, Harriett P., Chicago.
 Johnson, Jennie O., Chicago.
 Johnson, Mabel, La Grange.
 Jones, Mary E., Chicago.
 Josephi, Kate, Chicago.
 Judd, S. Alice, Mayfair.
 Kappes, J. Henry, Chicago.
 Kaufman, Mrs. M. D., Chicago.
 Keegan, Maggie E., Chicago.
 Kellogg, H. Amelia, Chicago.
 Kellogg, Kate Starr, Longwood.
 Kersey, Ruth Morris, Chicago.
 Kirk, Alfred, Chicago.
 Kirkhofer, H. J., Naperville.
 Kirkley, Sarah A., Chicago.
 Kletzing, Josiah F., Ravenswood.
 Kohler, Charlotte, Chicago.
 Kolb, Elizabeth, Chicago.
 Koupal, Kittie L., Avondale.
 Kurtz, J. H., Chicago.
 Lakin, B. B., Streator.
 Lambert, Vashti A., Palatine.
 LaMonte, Margaret R., Chicago.
 Lane, Abby E., Chicago.
 Lane, Albert G., Chicago.
 Leach, C. H., Rogers Park.
 Lennon, Anthony, La Grange.
 Lewis, Cora E., Wheaton.
 Linn, Henrietta A., Chicago.
 Little, H. P., Momence.
 Little, Luella V., Chicago.
 Locke, Josephine C., Chicago.
 Loudon, Mary C., Chicago.
 Lukens, Herman T., Chicago.
 Lundegreen, Francis, Chicago.
 Lynch, Della, Chicago.
 Lyons, Marguerite, Chicago.
 Martin, Anna B., Arlington Heights.
 Martin, Daniel R., Pullman.
 Marvin, M. W., Waukegan.
 Mattice, Ella A., Aurora.
 Maxwell, Fred B., Chicago.
 May, John W., Chicago.
 May, Mary C., Chicago.
 McBennett, Mary E., Chicago.
 McCabe, Nellie G., Chicago.
 McCarthy, John, Chicago.
 McCartney, Margaret, Chicago.
 McConville, Alice, Chicago.
 McCord, William E., Peoria.
 McCowen, Mary T., Englewood.
 McDade, James E., Kensington.
 McDonald, A. E., Chicago.
 McDonald, Katherine, Chicago.
 McDonald, Margaret E., Chicago.
 McEachron, Julia P., Chicago.
 McFarlin, Clara H., Chicago.
 McGarty, Catherine, Chicago.
 McGaughey, Mrs. J. A., Chicago.
 McGee, Lucy Castina, Chicago.
 McGinnis, J. W., Englewood.
 McKenzie, Mrs. Mattie, Chicago.
 McLaughlin, A. L., Chicago.
 McNarney, Mary A., Chicago.
 Melody, Genevieve, Chicago.
 Merriman, A. N., Chicago.
 Miller, F. L., Harvey.
 Miller, Lily, Simons.
 Milner, Sarah A., Grand Crossing.
 Minogue, Elizabeth, Chicago.
 Misch, Pauline, Chicago.
 Mitchell, Walter R., Chicago.
 Morgan, Royal T., Wheaton.
 Muffy, Sadie, Paw Paw.
 Murphey, Katherine T., Chicago.
 Nash, Georgina, Chicago.
 Nichols, F. R., Chicago.
 Nichols, Fred. W., S. Evanston.
 Norton, James H., Ravenswood.
 O'Bailey, Charlotte, Chicago.
 Oberlander, Sara E., Oak Park.
 O'Brien, Joanna A., Chicago.
 O'Connor, Mary I., Moreland.
 Ohr, Florence, Chicago.
 Oliver, Fanny E., Galena.
 Olson, Mrs. M. D., Chicago.

ILLINOIS—CONTINUED.

- Olson, Minnie C., Chicago.
 Ormsby, F. B., Englewood.
 Osinga, G. A., Chicago.
 Owens, Amy, Chicago.
 Page, Mrs. M. P., Chicago.
 Panker, Emma J., Chicago.
 Parker, C. M., Taylorville.
 Patter, Clark R., Blue Island.
 Payne, Wm. C., Hinsdale.
 Payne, Wm. M., Chicago.
 Peterson, Julia, Chicago.
 Phelps, Mary A., Chicago.
 Pierce, John M., Oak Park.
 Piper, Jonathan, Chicago.
 Plapp, Fred. W., Irving Park.
 Plumb, G. H. R., Glencoe.
 Pratt, Frances M., Chicago.
 Price, James Russell, Western Springs.
 Putnam, Alice H., Chicago.
 Quantrell, L. J., Des Plaines.
 Rand, Grace, Lombard.
 Raven, Louise, Cheltenham.
 Reed, Josephine, Chicago.
 Reibold, Leonard E., Chicago.
 Rice, Emily J., Chicago.
 Rice, Mary B. S., Chicago.
 Rice, Rebecca S., Chicago.
 Rieder, Frank W., Chicago.
 Riennier, Alexis, Chicago.
 Rinker, A. S., Chicago.
 Robbins, Geo., Chicago.
 Roberts, Nettie R., Rock Island.
 Robinson, Adelia E., Crete.
 Robinson, A. R., Chicago.
 Rocheleau, W. F., Carbondale.
 Rockwood, George H., Chicago.
 Rooney, Thomas C., Chicago.
 Root, Frederic W., Chicago.
 Roynon, Carrie G., Chicago.
 Ryan, Elesha A., Chicago.
 Sabin, A. R., Chicago.
 Sabin, Stewart B., Chicago.
 Sales, de, M., Chicago.
 Sanford, Frank E., La Grange.
 Sargent, Sabra L., Highland Park.
 Schaefer, Adelina S. A., Chicago.
 Schmohl, Miss F. J., Chicago.
 Schobinger, John J., Chicago.
 Schuyver, Jennie L., Chicago.
 Scott, Mrs. A. B., Chicago.
 Scudder, C. O., S. Evanston.
 Seely, Levi, Lake Forest.
 Sellars, Amanda, Mattoon.
 Sellars, Dovie Frances, Mattoon.
 Sengewald, Josie, Geneseo.
 Sergeant, Mary L., Chicago.
 Shaw, Ada M., Chicago.
 Silke, Lucy S., Chicago.
 Sinclair, James G., Chicago.
 Slocum, J., Chicago.
 Smedley, Fred. W., Peru.
 Smith, Fannie R., Chicago.
 Smith, R. M., Chicago.
 Smither, Harriett R., Chicago.
 Smyth, Mary H., Chicago.
 Snow, Katherine L., Chicago.
 Snyder, Lydia E., N. Evanston.
 Solial, Arthur H., Chicago.
 Sollitt, Alice E., Chicago.
 Spooner, Mary L., Chicago.
 Spottswood, Mary C., Rockford.
 Standish, John Van N., Galesburg.
 Starbuck, Ada C., Chicago.
 Starkey, Mrs. A. W., Quincy.
 Stearns, E. F., Chicago.
 Stedman, Maria M., Chicago.
 Steele, Eunice A., River Forest.
 Steele, Maud I., Chicago.
 Stegenga, P. M., Thornton.
 Stehman, John H., Avondale.
 Stephenson, Lillie S., Chicago.
 Stevenson, Albert L., Chicago.
 Stewart, Emma G., Chicago.
 Stieglitz, Julius, Chicago.
 Stimpeson, Lora A., Chicago.
 Stiver, P. O., Freeport.
 Stockman, Henrietta C., Bloomington.
 Stodder, Ida M., Chicago.
 Stokes, H. N., Chicago.
 Stowell, Corydon G., Chicago.
 Stowell, Harriett A., Chicago.
 Strasburg, James M., Chicago.
 Strong, Mrs. Emma, Chicago.
 Stube, John H., Simons.
 Stutesman, Ida E., Chicago.
 Suder, Henry, Chicago.
 Sullivan, Ella C., Chicago.
 Surridge, M. A., Ravenswood.
 Sweet, Joseph F., Chicago.
 Taylor, Chas. S., Chicago.
 Tear, John H., Chicago.
 Temple, Alice, Chicago.
 Thompson, Ada, Chicago.
 Thurston, Henry W., Englewood.
 Todd, Emma J., Aurora.
 Toppelius, Meri, Lake View.
 Tracy, F. N., Kankakee.
 Trainor, Louise M., Chicago.
 Tucker, Helen L., Chicago.
 Tustin, Annie M., Chicago.
 Tustin, Eliz. R., Chicago.
 Underhill, Volney, Chicago.
 Vail, Jennie M., La Grange.
 Vaile, H. S., Oak Park.
 Van Pelt, S., Onarga.
 Vaughn, Mary E., Chicago.
 Vernon, Josephine H., Chicago.
 Vinton, Geo. A., Chicago.
 Voorhees, G. L., Austin.
 Vosburg, Louise M., Pullman.
 Wadhams, John A., Irving Park.
 Walcott, Lizzie E., Chicago.
 Walker, P. R., Rockford.
 Walker, Clara, Chicago.
 Walker, Sylvia E., Chicago.
 Wallace, Sarah H., Austin.

ILLINOIS—CONCLUDED.

Wallis, Sidonia, Austin.
 Waterman, Richard, Austin.
 Watson, Fred. J., Austin.
 Watson, Mina M., Irving Park.
 Watt, Wm. E., Chicago.
 Weber, E. R., Harvey.
 Welch, Martha T., Chicago.
 Weldon, Adeline, Chicago.
 Welton, Wm., Lansing.
 Wentworth, Mrs. A. M., Englewood.
 Wescott, Oliver S., Chicago.
 Weston, Olive E., Chicago.
 Wheeler, Marshall G., Chicago.
 Whitecomb, Mrs. Hattie W., Gano.
 White, Emma G., Lanark.
 Whitmore, Eva Blaine, Chicago.
 Whyte, C. Ada, Chicago.
 Wiggins, Mary S., Chicago.

Wilkinson, Cecelia E., Chicago.
 Wilkinson, Geo. E., Alton.
 Willard, Samuel, Chicago.
 Wilmarth, Mrs. H. M., Chicago.
 Wilson, Martha, Chicago.
 Wilson Grace, D., Chicago.
 Winchell, Ann E., Norwood Park.
 Winchell, Harriet N., Norwood Park.
 Winston, Eugenia, Chicago.
 Wood, Alice C., Chicago.
 Wood, Andrew J., Chicago.
 Wood, Kate L., Chicago.
 Wood, Silas S., Chicago.
 Wright, Ebenezer, Englewood.
 Wylie, John, Walnut.
 Young, Mrs. Ella F., Chicago.
 Zimmer, Thomas H., Wilmette.

—*Illinois, 439.*

INDIANA.

Allison, John J., Crown Point.
 Belman, W. C., Hammond.
 Birk, S. J., Elko.
 Black, J. C., Michigan City.
 Brown, Jesse H., Indianapolis.
 Bryan, William L., Bloomington.
 Cooper, John, Brightwood.
 Cropsey, N., Indianapolis.
 Eddy, Henry T., Terre Haute.
 Faught, John, Oaktown.
 Fellows, Geo. E., Bloomington.
 Ferris, Annette E., Thornton.
 Graves, Elma, Richmond.
 Griggs, Edward H., Bloomington.
 Hailman, Eudora L., La Porte.
 Hailman, W. W., La Porte.
 Hawkins, Robt. D., Lafayette.
 Hitchcock, Clara M., Michigan City.
 Hodgins, Cyrus W., Richmond.
 Hosmer, Nettie, La Porte.

Humke, Albert E., Vincennes.
 Irwin, Jno. S., Fort Wayne.
 Jackson, L. Marie, Indianapolis.
 Jones, Louis H., Indianapolis.
 Lewis, Eleanor H., Fort Wayne.
 Malsbury, A. E., Thornton.
 Martin, Alexander, Greencastle.
 Miller, Mary E., Washington.
 Mustard, Mrs. Mary V., Indianapolis.
 Nicholson, Mary E., Indianapolis.
 Remy, Edward A., Tipton.
 Smith, E. R., Indianapolis.
 Suter, Anna, Aurora.
 Swahlen, Wm. T., Greencastle.
 Swain, Joseph, Bloomington.
 Tuner, Harriet E., Indianapolis.
 Vail, D. Albert, Terre Haute.
 Warren, J. F., Rensselaer.
 Woody, H. G., Kokomo.
 Wilkinson, Cecilia C., Westville.

—*Indiana, 40.*

INDIAN TERRITORY.

Bacane, A. C., Indian Univ., Bacane.

Riddell, Mrs. J. W., Muskegon.

—*Indian Territory, 2.*

IOWA.

Beardshear, W. M., Ames.
 Bredel, Clara H., Independence.
 Cook, Wm. W., Hull.
 Cramer, Wm. T., Iowa City.
 Frawley, Mary E., Marengo.
 Gates, Geo. A., Grinnell.
 Goldsmith, Mary R., Fayette.
 Johnson, J. A., Munterville.
 King, Wm. F., Mount Vernon.
 Kleinsorge, J. A., Des Moines.
 Kratz, H. E., Sioux City.
 Laylander, O. J., Cedar Falls.
 Library Normal School, Cedar Falls.
 Marshall, James, Cedar Rapids.
 Matthews, Elizabeth K., Des Moines.
 Mehan, J. M., Des Moines.

Mills, J. S., Toledo.
 Nolte, Anna M., Davenport.
 Normal School Library, Cedar Falls.
 Patrick, G. T. W., Iowa City.
 Pickard, Josiah L., Iowa City.
 Ramsey, Geo. J., Clinton.
 Rich, A. W., Le Mars.
 Robbins, Henry E., Lyons.
 Rogers, C. P., Marshalltown.
 Sabin, Henry, Des Moines.
 Seerley, H. H., Cedar Falls.
 Sengewald, Josie, Madrid.
 Smith, O. E., Des Moines.
 Tittle, Flora, Stewart.
 Tyler, Emma, Marion.
 Vogenitz, E. W. G., Northwood.

IOWA—CONCLUDED.

Warner, A. B., Harlan.
Warr, Vina L., Des Moines.
Wicks, Wm. J., Panama.

Williams, David, Milton.
Young, J. B., Davenport.

—*Iowa, 37.*

IRELAND.

Malloy, Wm. Robert, Dublin.

—*Ireland, 1.*

ITALY.

Monti, D'Eudo, Legano, Milan.

Strobel, Pellegrino, Parma.

—*Italy, 2.*

JAPAN.

Eudo, H., Tosho Kwaishia.
Gaines, Nannie B., Hiroshima.

Kuroda, Sadaharn, Hongo.

—*Japan, 3.*

KANSAS.

Ahlborn, Ida A., Baldwin.
Bates, Mrs. Alice L., Concordia.
Clark, H. C., Kingman.
Cottell, Louisa, Topeka.
Davidson, Wm. M., Topeka.
Dunkin, Frank, Wichita.
Halsey, Amelia L., Wichita.
Longnecker, Oscar, Paola.
MacDonald, John, Topeka.
McNeal, Florence, Norcatur.

Peterson, Carl F., Lindsborg.
Reed, Robert S., Cedar Point.
Richardson, Wm., Wichita.
Sharp, S. Z., McPherson.
Smith, O. L., Phillipsburg.
Snow, Francis H., Lawrence.
Taylor, Mrs. A. R., Emporia.
Wilkinson, J. W., Emporia.
Wood, Mary A., Topeka.
Yowell, T. A., Wichita.

—*Kansas, 20.*

KENTUCKY.

Ballard, Mrs. Mary A., Lexington.
Bartholomew, W. H., Louisville.
Brooks, H. Evelyn, Madisonville.
Ford, Cannie W., Covington.
Hill, Patty S., Louisville.
Mark, E. H., Louisville.
Merker, Margaret, Louisville.

Obenchain, W. A., Bowling Green.
Poynter, W. T., Shelbyville.
Rhoads, McHenry, Frankfort.
Ryland, Wm. S., Russellville.
Taylor, S. B., Louisville.
Warfield, W. C., Covington.

—*Kentucky, 13.*

LOUISIANA.

Ayres, Brown, New Orleans.
Baer, Clara G., New Orleans.
Brown, Marion, New Orleans.
King, Frank E., New Orleans.
Librarian New Orleans Educational Association, New Orleans.

McGingin, Carrie, New Orleans.
Ramsey, Geo. J., Clinton.
Soule, George, New Orleans.
Wright, Sophia B., New Orleans.

—*Louisiana, 9.*

MAINE.

Adams, Chas. Everett, Bangor.
Fernald, M. C., Orono.
Hayes, Benj. Francis, Lewiston.

Taylor, Sarah M., Portland.
Whittier, Frank N., Brunswick.

—*Maine, 5.*

MARYLAND.

Gilman, Daniel G., Baltimore.
Goucher, John F., Baltimore.
McCahan, Jno. E., Baltimore.
Prettyman, E. B., Baltimore.

Sadler, Warren H., Baltimore.
Schaffer, Edward M., Baltimore.
Wise, Henry A., Baltimore.
Worthington, John D., Belair.

—*Maryland, 8.*

MASSACHUSETTS.

Abercrombie, D. W., Worcester.
Adams, Chas. F., Worcester.
Aldrich, George I., Newtonville.
Baker, O. M., Springfield.
Baldwin, Wm. A., Andover.

Barker, Edmund P., Ayer.
Barrell, James S., Cambridgeport.
Bryant, Oliver F., Boston.
Burnham, Wm. H., Worcester.
Buttrick, Mrs. S. M., Hanover.

MASSACHUSETTS—CONCLUDED.

- Chase, Florence A., Boston.
 Chrisman, Oscar, Worcester.
 Connell, Wm., Fall River.
 Cooper, Frank I., Bridgewater.
 Cross, Anson K., Boston.
 Curtis, Elmer L., Hingham.
 Cutler, Henry F., Mount Hermon.
 Day, B. C., Easthampton.
 Deane, C. S., Adamsville.
 Dixon, Edward, West Brookfield.
 Dranga, Wilhelmina, Boston.
 Drew, Frank M., Worcester.
 Edgerly, Joseph G., Fitchburg.
 Edmand, E. J., Baldwinsville.
 Edson, A. W., Worcester.
 Enebuske, C. J., Boston.
 Fearing, Clarence W., South Weymouth.
 Fitz, Dr. G. W., Cambridge.
 Foster, Ellen B., Lowell.
 Gay, Geo. E., Malden.
 Hall, I. Freeman, Arlington.
 Hallett, Samuel W., Hyannis.
 Harnus, Paul H., Cambridge.
 Hartwell, Edward M., Boston.
 Haskell, Claire E., Cambridge.
 Holt, H. E., Lexington.
 Hoomans, Amy Morris, Boston.
 Horne, Irving W., Braintree.
 Huling, Ray G., New Bedford.
 Hunt, Chas. L., Clinton.
 Hunt, Mrs. Mary H., Hyde Park.
 Ivreson, J. E., Boston.
 Kilbon, Geo. B., Springfield.
 King, Isabel, Newton.
 King, Rachel, Newton.
 Lanza, Gaetano, Boston.
 Larsson, Gustaf, Boston.
 Lewis, Mrs. H. L., Hancock.
 Lynch, John E., Worcester.
 Mason, Lizzie A., Orange.
 Melcher, S. A., Whitinsville.
 Merrill, Moses, Boston.
 Moore, Geo. Dunning, Worcester.
 Morss, Charles H., Milton.
 Mowry, Wm. A., Salem.
 Nichols, Alice, Boston.
 Parmenter, Chas. W., Cambridgeport.
 Pease, Alvin F., Northampton.
 Pierce, Mary E., Dorchester.
 Pitman, J. A., Oakdale.
 Posse, Baron Nils, Boston.
 Potter, J. R., Walpole.
 Ramsay, Chas. C., Fall River.
 Richards, Robert H., Back Bay, Boston.
 Riley, Lizzie A., Chelsea.
 Ryder, Josiah Peterson, Watertown.
 Runkle, John D., Brookline.
 Safford, A. L., Beverly.
 Sargent, D. A., Cambridge.
 Smith, Minnie, Fall River.
 Snyder, W. H., Worcester.
 Stevens, C. E., West Springfield.
 Tapley, Wm. W., Springfield.
 Thompson, John G., Leominster.
 Walton, Geo. A., West Newton.
 Warner, Annette, Pittsfield.
 Winship, A. E., Boston.
 Wheeler, U. G., Mittineague.
 Whitecomb, A. K., Lowell.
 Woodward, Herbert M., Cambridge.

—*Massachusetts, 80.*

MICHIGAN.

- Adams, Helen Case, Lansing.
 Angell, James B., Ann Arbor.
 Beane, Ellen M., Detroit.
 Blackwood, Jeanette, Detroit.
 Burdon, Lilian, Grand Rapids.
 Burnham, Stella M., Detroit.
 Cannell, Maud E., Ypsilanti.
 Chesney, Maggie, Bay City.
 Coffin, Miss M. E., Detroit.
 Cuddeback, Elnora, Grand Rapids.
 Cupples, James W., Lapeer.
 Ellis, Wm. A., Detroit.
 Fitch, Ferris S., Pontiac.
 Garrigues, Ellen E., Ann Arbor.
 Goddard, Edwin C., E. Saginaw.
 Gorton, Lewis G., Agricultural College.
 Graham, Hugh A., Ontonagon.
 Hall, C. B., Detroit.
 Haviland, Hattie V., W. Bay City.
 Heffron, M. Cordelia, Detroit.
 Hetley, James H., Carson City.
 Hinsdale, B. A., Ann Arbor.
 Kimberlin, Nettie, Detroit.
 Mackenzie, David, Muskegon.
 Mauck, S. W., Houghton.
 Nykerk, J. B., Holland.
 O'Brien, Mary E., Detroit.
 Scott, Harriet M., Detroit.
 Strong, C. A., Ypsilanti.
 Whitney, Emory, Detroit.
 Whitney, M. A., Ypsilanti.

—*Michigan, 81.*

MINNESOTA.

- Brooks, Jabez, Minneapolis.
 Brooks, Sarah C., St. Paul.
 Carhart, Joseph, St. Cloud.
 Clum, Kitt, St. Paul.
 Corcoran, Anna T., St. Paul.
 Darrah, Estelle M., St. Paul.
 Engel, Peter, Collegeville.
 French, Fanny G., Winona.
 Galbreath, Louis H., Winona.
 Gilbert, C. B., St. Paul.
 Guptill, Fannie S., Minneapolis.
 Holmes, W. J., Winona.
 Jaeger, Mrs. Ruth, Minneapolis.
 Kiehle, D. L., St. Paul.

MINNESOTA—CONCLUDED.

Lindtwed, C. B., Northfield.
 Miller, M. F., Northfield.
 Nash, Alice C., Minneapolis.
 Nolte, Anna M., Duluth.
 Place, Mrs. C. L., St. Paul.

Schattschneider, J. J., Bethany.
 State Normal School, Winona.
 Stauff, Mrs. C. J., Wabasha.
 Strong, James W., Northfield.
 Twichell, Hattie, Minneapolis.

—*Minnesota*, 24.

MISSISSIPPI.

Barnard, J. U., Lafayette.
 Harris, Laura, Columbus.
 Lipscomb, Dabney, Agricultural College.

Lipscomb, Mrs. Dabney, Agricultural Col.
 Lipscomb, Laura, Columbus.
 White, Jas. W., Agricultural College.

—*Mississippi*, 6.

MISSOURI.

Anthony, E. L., Jefferson City.
 Arnold, Denham, St. Louis.
 Barnard, J. W., Cape Girardeau.
 Black, Wm. Henry, Marshall.
 Caldwell, A. J., St. Louis.
 Eaton, James R., Liberty.
 Fruchet, Amelia C., St. Louis.
 Greenwood, J. M., Kansas City.
 Jackson, Josephine, Hannibal.
 Jenness, A. L., Chillicothe.
 Jesse, R. H., Columbia.
 Ludlum, Mrs. Mary H., St. Louis.
 Martin, W. H., Lamar.
 McCulloch, Mary C., St. Louis.
 Merwin, J. B., St. Louis.
 Milligan, Sarah J., Webster Grove.

Muench, Hugo, St. Louis.
 Murphy, Geo. T., St. Louis.
 Osborn, Geo. L., Warrensburg.
 Page, Inman E., Jefferson City.
 Prewitt, Mary T., Kirksville.
 Ridgway, J. T., Kansas City.
 Riley, Matilda E., St. Louis.
 Robinson, Temple B., Paris.
 Slade, James B., E. St. Louis.
 Soldan, F. Louis, St. Louis.
 Sparrow, E. M., Moberly.
 Teuteberg, L. W., St. Louis.
 Thorn, Mrs. J. C., Kansas City.
 Toensfeldt, J., St. Louis.
 Wood, O. M., St. Louis.
 Woodward, C. M., St. Louis.

—*Missouri*, 32.

MONTANA.

Charles, C. M., Miles City.
 Paxson, E. E., Butte.

Young, Robert G., Helena.

—*Montana*, 3.

NEBRASKA.

Baldwin, Clara E., Lincoln.
 Beals, S. D., Omaha.
 Canfield, James H., Lincoln.
 Canfield, Mrs. James H., Lincoln.
 Chatburn, Geo. R., Wymore.
 Conklin, Clara, Lincoln.
 Fee, W. E., Long Pine.
 Fitzpatrick, Frank L., Omaha.
 Fowler, W. K., Jr., Blair.
 Harris, Ebenezer D., Lincoln.
 Ludborough, Mrs. Gracie B., Omaha.
 McGee, Miss L. C., Omaha.

Moore, Hettie S., Omaha.
 Morgan, Elisa C., Peru.
 Moulux, J. B., Hastings.
 Munroe, Alex. A., S. Omaha.
 Nevins, Fannie, Omaha.
 Norton, A. W., Peru.
 Poppleton, Elizabeth E., Omaha.
 Reese, D. E., Oakland.
 Shields, Orietta Belle, Omaha.
 Wilson, Isaac E., Superior.
 Wolfe, Harry K., Lincoln.

—*Nebraska*, 23.

NETHERLANDS.

Brinkgreve, Heer J. D., Dordrecht, Teekenleever.

—*Netherlands*, 1.

NEW HAMPSHIRE.

Copp, Isaac, Hillsborough.
 Dodge, Vienna, Webster.
 Piper, James C., Stratham.

Rounds, C. C., Plymouth.
 Rounds, Mrs. Kate S., Plymouth.
 Rounds, Katharine E., Plymouth.

—*New Hampshire*, 6.

NEW JERSEY.

Anderson, Lizzie, Camden.
 Briggs, Frank O., Trenton.
 Bunting, Ida, Camden.

Burrough, Clara S., Camden.
 Cassady, Lizzie A., Camden.
 Cotner, Mary C., Camden.

NEW JERSEY—CONCLUDED.

Davis, Charles M., Bayonne.
 Dix, J. Augustus, Elizabeth.
 Draper, Horatio, Camden.
 Farrell, Anna, Camden.
 Fithian, Laura H., Camden.
 Fry, Geo. E., Camden.
 Hall, Sallie E., Camden.
 Harris, H. E., Bayonne.
 Hill, Mrs. T. R., West Creek.
 Hughes, Florence, Camden.
 Hull, Lawrence C., Lawrenceville.
 Kent, Wm., Passaic.
 Luther, Agnes Vinton, Newark.
 Mackenzie, J. C., Lawrenceville.
 Marvin, Mrs. Susan C., Jersey City.

Maxson, H. M., Plainfield.
 Maybury, Belle, Camden.
 McCully, Clara E., Camden.
 Messler, Frances, Camden.
 Middleton, Chas. K., Camden.
 Musgrave, Alex., Hoboken.
 Ormond, Alexander T., Princeton.
 Salisbury, Rhyland, E. Hammonton.
 Sandy, W. C., Newark.
 Smith, W. W., Englewood.
 Spaulding, Randall, Montclair.
 Thompson, Helen J., Trenton.
 Willcox, Chas. H., Lawrenceville.
 Wright, Wm. R., Nutley.

—*New Jersey, 35.*

NEW MEXICO.

Allensworth, Allen, Fort Bayard.
 Hadley, Hiram, San Cruces.
 Hodgins, Chas. E., Albuquerque.

Morrow, Alcinda L., Albuquerque.
 Ramsay, Geo. S., Albuquerque.
 Winslow, Martha M., Albuquerque.

—*New Mexico, 6.*

NEW YORK.

Ames, Daniel T., New York.
 Balch, Col. Geo. T., New York.
 *Bardeen, Beatrice, Syracuse.
 Bardeen, Bertha F., Syracuse.
 Bardeen, Charles R., Syracuse.
 Bardeen, C. W., Syracuse.
 Bardeen, Ethel, Syracuse.
 Bardeen, Norma F., Syracuse.
 Bartlett, Ella E., Troy.
 Beardsley, Elias J., Elmira.
 Benedict, W. H., Elmira.
 Benjamin, Geo. H., Albany.
 Bennett, Chas. A., New York.
 Bigelow, J. D., Moravia.
 Binion, Samuel A., New York.
 Black, James C., New York.
 Boelte, Mrs. Marie Kraus, New York.
 Bromwell, Amy, New York.
 Butler, Nicholas Murray, New York.
 Chandler, John W., Jordan.
 Cheney, Francis J., Cortland.
 Coe, Emily M., New York.
 Cole, Charles W., Albany.
 Coon, Henry Clarke, Alfred Centre.
 Comings, Fannie S., Brooklyn.
 Crandall, Chas. L., Ithaca.
 Crawford, Frances M., Cohoes.
 Cronnell, Julia W., Albany.
 Crowley, Mary E., Fillmore.
 Davidson, Martha E., Dobbs Ferry.
 Downing, A. S., Palmyra.
 Dunning, Sara L., Brooklyn.
 Dyke, A. W., Phoenix.
 Eaton, Chas. W., Brooklyn.
 Elgas, Matthew J., New York.
 Flemming, Mary A., Buffalo.
 French, H. P., Albany.
 Friedburg, Wm. B., New York.
 Goodnough, Walter S., Brooklyn.

Greene, J. A., New York.
 Griffith, Geo., Utica.
 Hall, Mary F., Spencer.
 Hambleton, Mrs. R. A., Buffalo.
 Harms, Meta, Brooklyn.
 Haven, Caroline T., New York.
 Hawkins, Emily J., Buffalo.
 Hilton, Bertha E., Amsterdam.
 *Hoffman, Paul, New York.
 Hueston, Jesse, E. Flushing.
 Jones, E. N., Plattsburg.
 Kellogg, Amos M., New York.
 Kelsey, David M., Saratoga Springs.
 Kinsley, M. H., Massena.
 Lovell, Thomas B., Suspension Bridge.
 MacVicar, M., Brooklyn.
 McAndrew, Wm. Andrew, Brooklyn.
 McKee, Wm. H., New York.
 Maguire, Edward, Lockport.
 Marsh, Clinton S., N. Towanda.
 Merrill, Jennie B., 112 E. 81st St., New York.
 Milne, James M., Oneonta.
 Milne, Wm. J., Albany.
 Morand, Emma, Troy.
 Morand, Linda, Troy.
 Montfort, R. V. R., Newburg.
 Norton, Lena Margaret, Rochester.
 Orr, Susan M., Brooklyn.
 Packard, Silas S., New York.
 Packer, E. E., Albany.
 Palmer, Francis B., Fredonia.
 Pardo, C., New York.
 Persons, Metta L., Gloversville.
 Power, Gussie, Hudson.
 Purdy, Henry S., Brewster.
 Rayson, Amy, New York.
 Reid, Jessie, New York.
 Rice, Gratia L., Buffalo.

NEW YORK—CONCLUDED.

Richards, C. R., Brooklyn.
 Rock, Anna J., Niagara Falls.
 Rogers, Josephine E., New York.
 Rogers, R. R., Jamestown.
 Rounds, Miss C., Brooklyn.
 Shaw, Edward R., Yonkers.
 Sheldon, E. A., Oswego.
 Shiller, Branca, College Point.
 Shimer, Edgar D., Jamaica.
 Smith, J. Gardner, New York.
 Smith, Margaret K., Oswego.

Sperganza, C. L., New York.
 Stearns, Wayland E., Mohawk.
 Stowell, T. B., Potsdam.
 Thiry, John Henry, Long Island City.
 Thurber, Chas. Herbert, Hamilton.
 Trant, Amelia Earle, Buffalo.
 Van Tuyle, Chas. H., Hamilton.
 Van Wagener, Mary L., New York.
 Wentz, Etta Lansing, Albany.
 Winne, James, Poughkeepsie.
 Wylie, Mary J. B., Buffalo.

—New York, 99.

NEW ZEALAND.

Dickinson, James C., Auckland.

—New Zealand, 1.

NORTH CAROLINA.

Colten, Mrs. Sallie T., Falkland.

Smedes, Bennett, Raleigh.

—North Carolina, 2.

OHIO.

Akels, John, Cincinnati.
 Armstrong, Miss M. L., Cincinnati.
 Baughman, L. E., Dresden.
 Bennett, C. W., Piqua.
 Bolenbaugh, Geo. B., New Richmond.
 Booth, E. R., Cincinnati.
 Chaney, N. H., Washington.
 Compton, Elias, Wooster.
 Corns, Harry, Columbus.
 Corson, Oscar T., Columbus.
 Day, W. E., Dayton.
 Dayton, Mrs. Fanny, Cincinnati.
 Dickey, Elizabeth S., Cincinnati.
 Dutton, Bettie A., Cleveland.
 Evans, Mary, Painesville.
 Evans, Carrie J., Cherry Fork.
 Felton, Elias R., Cleveland.
 Fillmore, Nettie, Cincinnati.
 Findlay, Samuel, Akron.
 Garst, Henry, Westerville.
 Gillman, J. W., Navarre.
 Glover, Nathan L., Akron.
 Goodwin, F. P., Cincinnati.
 Handley, C. H., Shelby.
 Harper, Geo. W., Cincinnati.
 Hauptert, Chas., Wooster.
 Hinckley, Mrs. Emma R., Cleveland.
 Hirst, Cosmelia, Yellow Spring.
 Jones, Arthur O., Cincinnati.
 Jones, Benj. T., Bellaire.
 Jones, John W., Circleville.
 Kimmell, M. A., Poland.
 Kohnky, Frances, Cincinnati.
 Kuersteine, Albert F., Cincinnati.
 Laird, Mrs. Ada E., Cleveland.
 Lathrop, Mrs. C. N., Cincinnati.
 Law, Mary E., Toledo.
 Laws, Annie, Cincinnati.
 Lee, Charlotte J., Youngstown.
 Leiter, Mrs. Frances W., Mansfield.
 Lewis, M. H., Circleville.
 Long, C. C., Cincinnati.

Loomis, H. T., Cleveland.
 McCauley, J. C., Defiance.
 Magurk, Mary E., Cincinnati.
 Marshall, L. R., Newark.
 Mertz, H. N., Steubenville.
 Mohler, Jerome B., Gallipolis.
 Nohr, Robert, Cincinnati.
 O'Donnell, C. J., Cincinnati.
 Osgood, Anna M., Columbus.
 Parker, Henry M., Elyria.
 Parmenter, C. W., Akron.
 Patrick, Ellen M., Cincinnati.
 Peirce, Wm. Foster, Gambier.
 Peters, J. A., Tiffin.
 Pinney, Mrs. Weltha, Columbus.
 Raschig, H. H., Avondale.
 Rood, W. V., Akron.
 Sanor, S. D., Youngstown.
 Scott, James W., Londonville.
 Scott, W. H., Columbus.
 Sharp, J. W., Mansfield.
 Shawan, J. A., Columbus.
 Smith, Olive E., Massillon.
 Smith, Olive L., Albany.
 Smock, E. E., Cumberland.
 Speidel, August, Tiffin.
 Sproull, W. O., Cincinnati.
 Stay, J. D., Cleveland.
 Stevenson, Mary H., Cincinnati.
 Stewart, N. Coe, Cleveland.
 Stickney, Lucia, Cincinnati.
 Sullivan, Christian, Walnut Hills, Cincinnati.
 Sullivan, Margaret, Columbus.
 Sutherland, Margaret W., Columbus.
 Thomas, R. S., Warren.
 Turrill, Isaac H., Cincinnati.
 Vandegrift, Wm. C., Toledo.
 Venable, Wm. Henry, Cincinnati.
 Vogel, Wm. H., Cincinnati.
 Waite, Geo. S., Toledo.
 Westentorf, Mrs. Katherine, Cincinnati.

OHIO—CONCLUDED.

White, Emerson E., Columbus.
Wilson, Lucy L., Oberlin.

Worden, Mrs. E. D., Cincinnati.
Youmans, F. M., Cincinnati.

—Ohio, 86.

ONTARIO.

Gallagher, R. E., Hamilton.
Hughes, Mrs. Ada M., Toronto.
Kirklan, Thomas, Toronto.
Laidlaw, Jean R., Woodstock.
Lawson, Caroline, Toronto.
London, James, Toronto.

Manintyre, Mary Ethel, Toronto.
Millar, John, Toronto.
Newcomb, Mrs. L. T., Hamilton.
Sinclair, Samuel B., Hamilton.
Wylie, Mary J. B., Brantford.

—Ontario, 11.

OREGON.

Allen, G. W., Portland.
Bloss, John M. Corvallis.
Carson, Luella Clay, Eugene.

Hawthorne, Benj. J., Eugene.
McElroy, E. B., Salem.
Young, Frederick G., Portland.

—Oregon, 6.

PENNSYLVANIA.

Albro, S. H., Mansfield.
Andrews, S., Pittsburg.
Benthien, Elizabeth M., Millbrook.
Boger, Cyrus, Lebanon.
Brooks, Edwards, Philadelphia.
Broumbough, M. G., Huntingdon.
Buehrle, R. K., Lancaster.
Cargo, R. M., Pittsburg.
Caroland, Mary R., Philadelphia.
Christ, D. H., Minersville.
Crouter, A. L. E., Philadelphia.
Deatrick, W. W., Kutztown.
Dewey, James A., Wauanane.
Eccleston, Mrs. S. C., Philadelphia.
Ehinger, Clyde E., West Chester.
Fleisher, Daniel, Troy.
Gotwals, Jos. K., Norristown.
Hallowell, Anna, Philadelphia.
Higginbotham, May, Philadelphia.
Heins, Mary, Eshbach.
Hoffecker, R. F., Norristown.
Huber, Vincent, Beatty.
Kieffer, John B., Lancaster.
Lavers, E. C., New Brighton.
Lamberton, Mary J., Philadelphia.
Leister, H. F., Phoenixville.
Lodge, Susan C., West Chester.
Lyte, E. Oram, Millersville.
MacAllister, James, Philadelphia.

Mackenzie, Constance, Philadelphia.
Mackey, Supt. E., Butler.
Myers, J. A., McVeytown.
Miller, L. W., Philadelphia.
Morrison, A. J., Philadelphia.
Mumford, Mary E., Philadelphia.
Noetling, William, Selinsgrove.
Palmer, Lelia B., Titusville.
Rondinella, L. F., Philadelphia.
Roth, Henry Rupp, Bradford.
Samuel, Wm. H., Philadelphia.
Schaefer, N. C., Lancaster.
Seips, Theodore L., Allentown.
Shaffner, Ruth, Carlisle.
Smith, Andrew Thomas, Westchester.
Spayd, H. H., Minersville.
Speakman, Warren C., West Chester.
Spencer, Pauline W., Philadelphia.
Spiegle, Grace E., Philadelphia.
Stearns, Chas. H., Indiana.
Stewart, Sarah A., Philadelphia.
Tadd, J. Liberty, Philadelphia.
Townsend, Geo. W., Philadelphia.
Walton, Jos. S., Ercildoun.
Williams, Anna W., Philadelphia.
Wright, Elizabeth M., Pittsburg.
Wright, Mary, Philadelphia.
Young, Evaline, Philadelphia.

—Pennsylvania, 57.

PRUSSIA.

Fett, W. A., Konigsberg.

—Prussia, 1.

QUEBEC.

Harper, J. M., Quebec.

—Quebec, 1.

RHODE ISLAND.

Bliss, Geo. N., East Providence.
Church, Geo. E., Providence.
Delabarre, Edmund B., Providence.
Draper, Frank O., Lincoln.
Fisher, Gilman C., Pawtucket.
Foster, Wm. E., Providence.
Grant, Wm. Webster, Providence.

Gay, P. A., Pawtucket.
Guilbert, Jean F., Providence.
Hammett, Elizabeth, Newport.
Harris, Miss E. G., Woonsocket.
Johnson, Ernest H., E. Providence.
Kingsley, W. G., Providence.
Putnam, Helen C., Providence.

RHODE ISLAND—CONCLUDED.

Rich, Joseph W. V., Providence.
 Snow, Leonis F., Providence.
 Stockwell, Thos. B., Providence.

Wightman, J. L., Pawtucket.
 Wilson, W. E., Providence.

—*Rhode Island*, 19.

RUSSIA.

Deboglaiff, Monsieur, Tiflis.
 Dewid, J. W., Zlota 26, Warsaw.
 Fortunatoff, Professor, Moscow.
 Janovsky, Monsieur C., Tiflis.
 Kaidanoff, Mlle., Tiflis.
 Klauss, Madame, Tiflis.

Kovalevsky, Eugraphe, St. Petersburg.
 Meller, Monsieur Paul, Tiflis.
 Nebolsine, Gregoire, St. Petersburg.
 Sigel, Theodore, Warran.
 Tamaincheff, Madame, Tiflis.
 Tanchul, Professor Ivan, Moscow.

—*Russia*, 12.

SCOTLAND.

Clapperton, Margaret A., Edinburgh.
 Galloway, Janet A., Glasgow.

Howden, Janet, Edinburgh.

—*Scotland*, 3.

SOUTH AMERICA.

Howard, Jennie E., San Nicolas, Argentine Republic.

Ruano, Albert G., Montevideo, Uruguay.

—*South America*, 2.

SOUTH CAROLINA.

Bogeman, Louise, Ninety-Six.
 Davis, Ellery W., Columbia.
 Jones, Anna S., Bennettsville.

Nance, Mrs. M. E., Columbia.
 Patrick, John B., Anderson.

—*South Carolina*, 5.

SOUTH DAKOTA.

Beadle, Wm. H. H. (2), Madison.
 Bredel, Clara H., Aberdeen.

Cross, A. G., Mitchell.
 Peabody, Helen S., Sioux Falls.

—*South Dakota*, 5.

SPAIN.

Campos, Manuel Torres, Grenada.
 Ribera, Emilio, Valencia.

Rodrigner, Juan, Valencia.

—*Spain*, 3.

SWEDEN.

Lagerstedt, N. G. W., Stockholm.
 Lundin, Hulda, Stockholm.

Osterberg, Edwin, Stockholm.
 Torngren, L. M., Stockholm.

—*Sweden*, 4.

TENNESSEE.

Boardman, Samuel W., Marysville.
 Brachvogle, Leska, Nashville.
 Braden, J., Nashville.
 Garrett, W. R., Nashville.

Goodman, Frank, Nashville.
 Nance, Bethenia, Nashville.
 Toon, W. B., Franklin.
 White, W. T., Knoxville.

—*Tennessee*, 8.

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Atwood, T. J., Houston.
 Bledsoe, Thomas A., Abilene.
 Daniels, Miss M. I., Galveston.
 Dickinson, Mrs. C. T., Dallas.
 Harn, A. H., Pearsall.
 Harper, Mrs. M. A., Waco.
 Harris, Laura, Waco.
 Hogg, Alex., Fort Worth.
 Jones, M. H., Fort Worth.

McNeely, J. W., Wharton.
 Parsons, H. S., Italy.
 Randol, N. C., Fort Worth.
 Scratchley, M. C. E., Concepcion.
 Scull, Clara E., Galveston.
 Sutton, N. S., Houston.
 Vaughn, Mary, Fort Worth.
 Wedemeyer, Chas. H., Belton.

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UTAH.

Aber, Wm. M., Salt Lake City.
 Malone, W. R., Salt Lake City.
 Martin, A. S., Salt Lake City.
 Millsbaugh, J. F., Salt Lake City.

Hallock, Edwin S., Salt Lake City.
 Rook, Mrs. Susie B., Salt Lake City.
 Young, Geo. C., Salt Lake City.

—*Utah*, 7.

VERMONT.

Putney, Chas. E., St. Johnsbury. Wheeler, H. O., Burlington. — *Vermont, 2.*

VIRGINIA.

Anderson, Chas. E., Adwolf. Harrison, Corinne, Norfolk. — *Virginia, 2.*

WASHINGTON.

Barnard, Frank H., Seattle. Keyes, Margaretta H., Olympia. — *Washington, 3.*
Carothers, Geo. R., Tacoma.

WASHINGTON, D. C.

Blodgett, James H., Washington. Schaeffer, Edward M., Washington.
Cabell, Mrs. Wm. D., Washington. Schmidt, Anna, Washington.
Eaton, John, Washington. Spencer, Mrs. Sara A., Washington. — *Washington, D. C., 7.*
Pollock, Mrs. Louise, Washington.

WEST INDIES.

Gillies, William, Kingston. Hicks, George, Shooters Hill. — *West Indies, 2.*

WEST VIRGINIA.

Anderson, W. H., Wheeling. Maulsby, Lawrence S., Fairmount.
Barnes, J. Walter, Fairmount. Payne, C. H., Montgomery.
Campbell, James Edwin, Farm. Prillerman, Byrd, Charleston.
Dandridge, Mrs. E. M., Quinnimont. Shields, D. W., New Martinsville. — *West Virginia, 9.*
Evans, Chas. W., Fairmount.

WISCONSIN.

Amidon, L. E., West Bend. McGregor, D., Platteville.
Anderson, W. H., Wheeling. Needham, Oliver, Midway.
Berkey, Nellie, Menomonee. Nichols, Alice, La Crosse.
Bruce, Wm. G., Milwaukee. Nicholson, Dexter P., Appleton.
Devlin, Sarah, Woodworth. Sabin, Ellen C., Fox Lake.
Dresden, B. M., West Bend. Salisbury, Albert, Whitewater.
Felt, Emily M. B., Platteville. Seelye, Osman C., Racine.
Forbes, Annie, Waukesha. Severance, Sara L., Superior E. End.
Goldsmith, Mary R., Milwaukee. Shields, Mrs. Una M., West Superior.
Holmes, Manfred J., Winona. Shutts, G. C., Whitewater.
Hoyt, Judson E., Menomonee. Sperdel, August, Milwaukee.
Hull, John, River Falls. Sylvester, C. H., Madison.
Hutton, A. J., Platteville. Todd, Samuel Brown, Madison.
Jackson, B. B., Bayfield. Vandewalker, Nina C., Whitewater.
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